Microsoft® Access® 2013 LEVEL 3

TUTORIAL 6

Using Form Tools and Creating Custom Forms

Creating Forms for Chatham Community Health Services

ACCESS

OBJECTIVES

Session 6.1
- Change a lookup field to a Short Text field
- View and print database documentation
- Create datasheet, multiple item, and split forms
- Modify a form and anchor form controls in Layout view

Session 6.2
- Plan, design, and create a custom form in Design view and in Layout view
- Select, move, align, resize, delete, and rename controls in a form
- Add a combo box to a form
- Add headers and footers to a form

Session 6.3
- Add a combo box to a form to find records
- Add a subform to a form
- Add calculated controls to a form and a subform
- Change the tab order in a form
- Improve the appearance of a form

Case | *Chatham Community Health Services*

Cindi Rodriguez hired Raj Gupta to enhance the Clinic database, and he initially concentrated on standardizing the table design and creating queries for Chatham Community Health Services. Cindi and her staff created a few forms before Raj came onboard, and Raj's next priority is to work with Cindi to create new forms that will be more functional and easier to use.

In this tutorial, you will create new forms for Chatham Community Health Services. In creating the forms, you will use many Access form customization features, such as adding controls and a subform to a form, using combo boxes and calculated controls, and adding color and special effects to a form. These features make it easier for database users like Cindi and her staff to interact with a database.

STARTING DATA FILES

Access2 →

Tutorial
Clinic.accdb (*cont.*)

Review
Supplier.accdb (*cont.*)

Case1
Task.accdb (*cont.*)

Case2
Tutoring.accdb (*cont.*)

Case3
Rosemary.accdb (*cont.*)

Case4
Ecotour.accdb (*cont.*)

Session 6.1 Visual Overview:

A **tabular layout** arranges text box controls in a datasheet format with a label above each column.

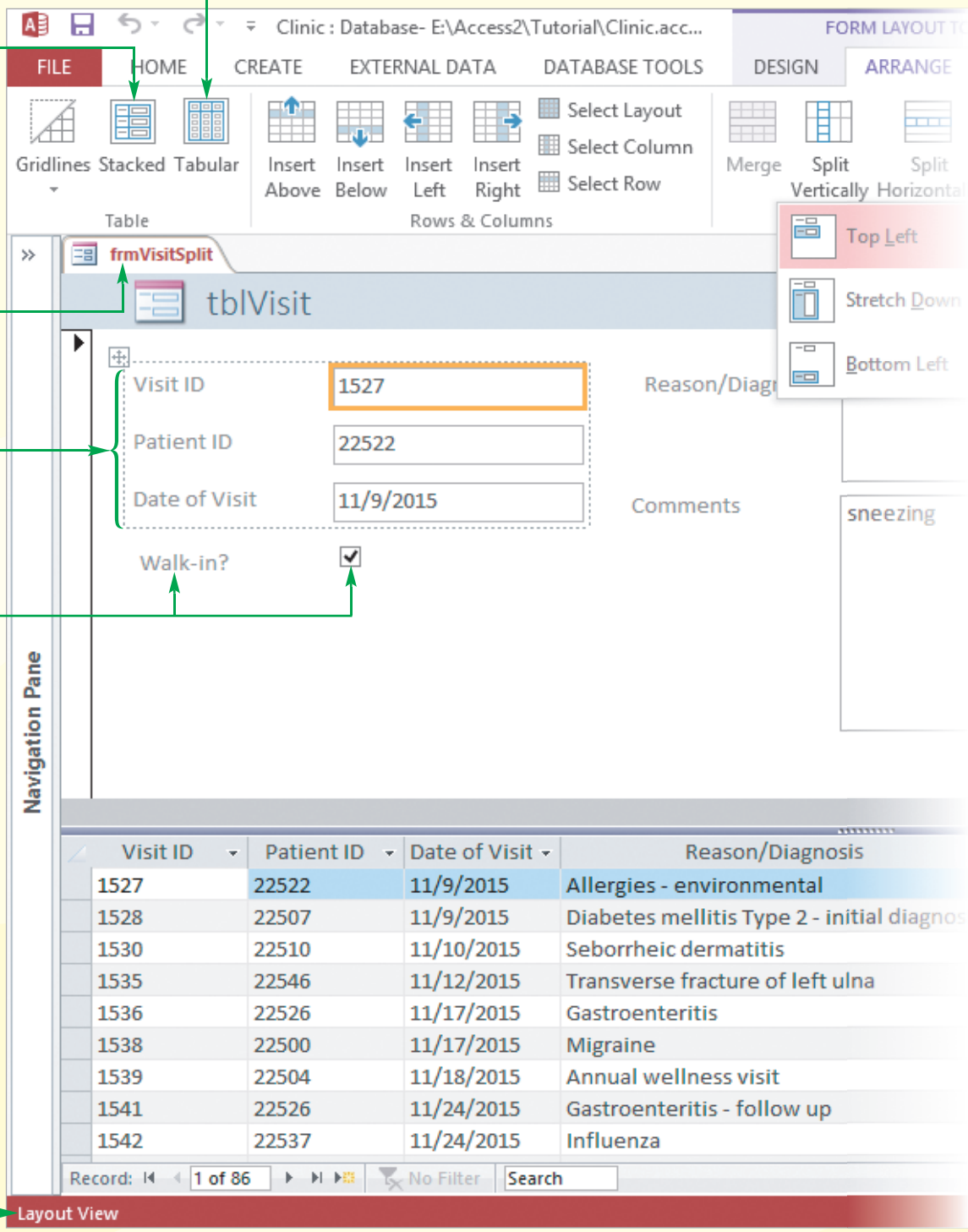
A **stacked layout** arranges text box controls vertically with a label control to the left of each text box control.

This form was created using the **Split Form Tool**, which creates a customizable form that simultaneously displays the data in both Form view and Datasheet view.

These controls are anchored to the top left.

These controls have been removed from the stacked layout.

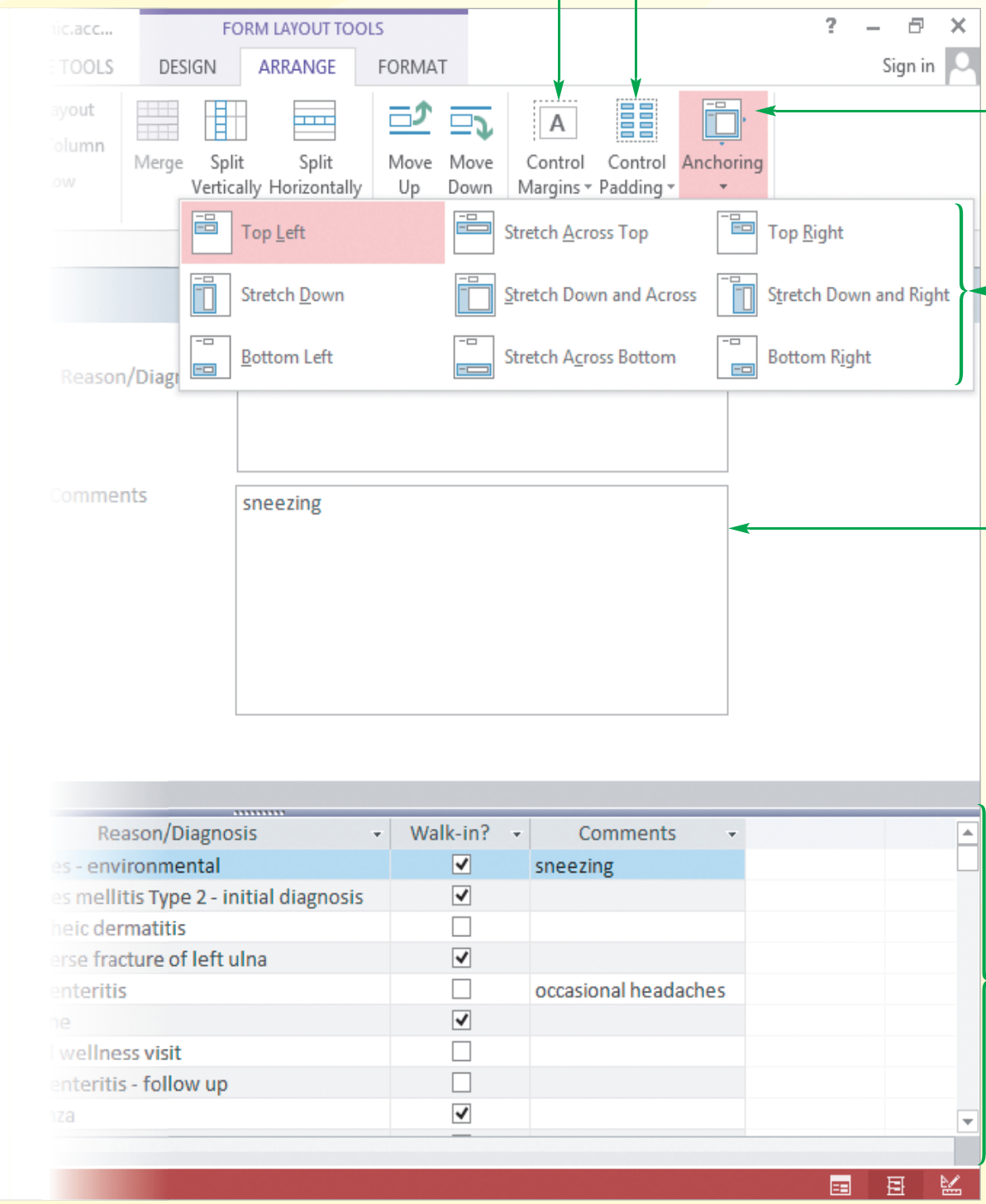
This form is displayed in Layout view.



Anchoring Controls

The **Control Margins property** controls the spacing around the text inside a control.

The **Control Padding property** controls the spacing around the outside of a control.



The Anchoring button sets the **Anchor property**, which resizes a control and places it in the chosen position on the form.

The Anchoring gallery displays options for setting the anchoring position of a control.

The Comments text box and associated label are anchored to the bottom right.

This portion of the form is displayed in Datasheet view.

Designing Forms

You've used wizards to create forms, and you've modified a form by changing its design in Layout view, which is one method of creating a custom form. To create a **custom form**, you can modify an existing form in Layout view or in Design view, or you can design and create a form from scratch in Layout view or in Design view. You can design a custom form to match a paper form, to display some fields side by side and others top to bottom, to highlight certain sections with color, or to add visual effects. Whether you want to create a simple or complex custom form, planning the form's content and appearance is always your first step.

INSIGHT

Form Design Guidelines

The users of your database should use forms to perform all database updates because forms provide better readability and control than do table and query recordsets. When you plan a form, you should keep in mind the following form design guidelines:

- Determine the fields and record source needed for each form. A form's **Record Source property** specifies the table or query that provides the fields for the form.
- Group related fields and position them in a meaningful, logical order.
- If users will refer to a source document while working with the form, design the form to match the source document closely.
- Identify each field value with a label that names the field, and align field values and labels for readability.
- Set the width of each text box to fully display the values it contains and also to provide a visual cue to users about the length of those values.
- Display calculated fields in a distinctive way, and prevent users from changing and updating them.
- Use default values, list boxes, and other form controls whenever possible to reduce user errors by minimizing keystrokes and limiting entries. A control is an item, such as a text box or command button, that you place in a form or report.
- Use colors, fonts, and graphics sparingly to keep the form uncluttered and to keep the focus on the data. Use white space to separate the form controls so they are easier to find and read.
- Use a consistent style for all forms in a database. When forms are formatted differently, with form controls in different locations from one form to another, users must spend extra time looking for the form controls.

Cindi and her staff had created a few forms and made table design changes before implementing proper database maintenance guidelines. These guidelines recommend performing all database updates using forms. As a result, Chatham Community Health Services won't use table or query datasheets to update the database, and Cindi asks if she should reconsider any of the table design changes she asked you to make to the Clinic database in the previous tutorial.

Changing a Lookup Field to a Short Text field

The input mask and validation rule changes are important table design modifications, but setting the InvoiceItemID field to a lookup field in the tblBilling table is an unnecessary change. A form combo box provides the same capability in a clearer, more flexible way. Many default forms use text boxes. A **text box** is a control that lets users type an entry. A **combo box** is a control that combines the features of a text box and a list box; it lets users either choose a value from a list or type an entry. A text box should be used when users must enter data, while a combo box should be used when there is a finite number of choices. Before creating the new forms for Cindi, you'll

change the data type of the InvoiceItemID field in the tblBilling table from a Lookup Wizard field to a Short Text field, so you can create the relationship with referential integrity between the tblBilling and tblInvoiceItems tables.

To change the data type of the InvoiceItemID field:

1. Start Access, and then open the **Clinic** database you worked with in Tutorial 5.

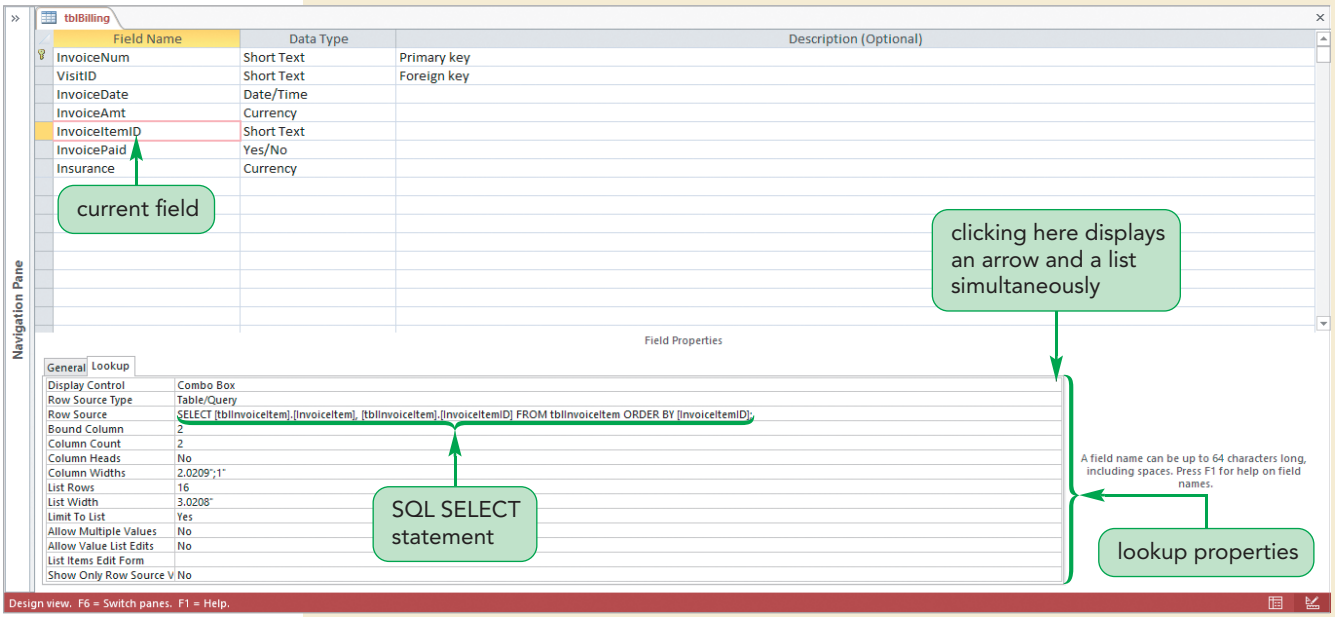
   Trouble? If the security warning is displayed below the Ribbon, either the Clinic database is not located in the Access2 ▸ Tutorial folder or you did not designate that folder as a trusted folder. Make sure you opened the database in the Access2 ▸ Tutorial folder, and make sure that it's designated as a trusted folder.

TIP

You can press the F11 key to open or close the Navigation Pane.

2. Open the Navigation Pane, open the **tblBilling** table in Design view, and then close the Navigation Pane.
3. Click the **InvoiceItemID** Field Name box, and then click the **Lookup** tab in the Field Properties pane. The Field Properties pane now displays the lookup properties for the InvoiceItemID field. See Figure 6-1.

Figure 6-1 Lookup properties for the InvoiceItemID field



Notice the **Row Source property**, which specifies the data source for a control in a form or report or for a field in a table or query. The Row Source property is usually set to a table name, a query name, or an SQL statement. For the InvoiceItemID field, the Row Source property is set to an SQL SELECT statement. You'll learn more about SQL later in this text.

To remove the lookup feature for the InvoiceItemID field, you need to change the **Display Control property**, which specifies the default control used to display a field, from Combo Box to Text Box.

4. Click the right side of the **Display Control** box, and then click **Text Box**. All the lookup properties in the Field Properties pane disappear, and the InvoiceItemID field changes back to a standard Short Text field without lookup properties.

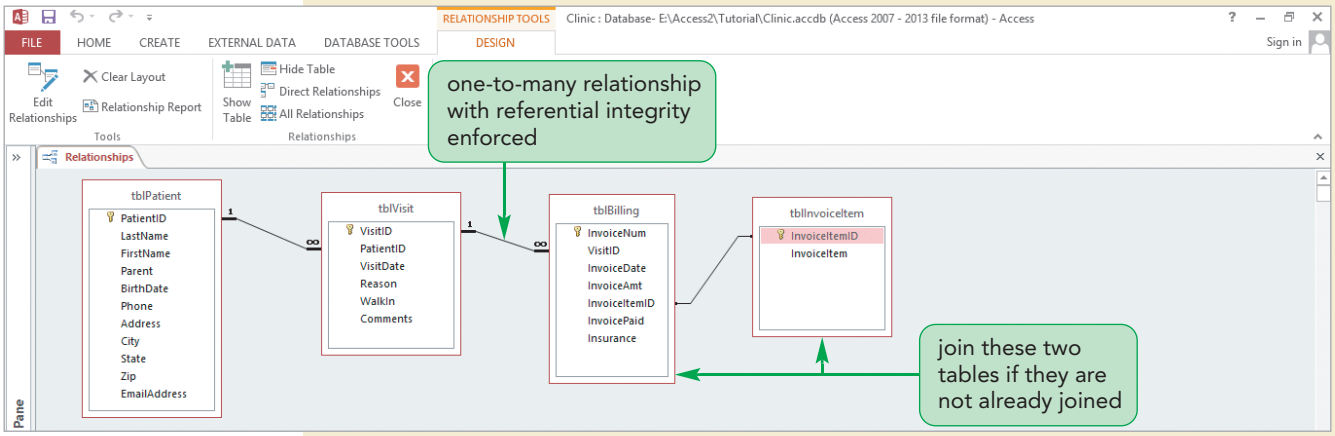
5. Click the **General** tab in the Field Properties pane and notice that the properties for a Short Text field still apply to the InvoiceItemID field.
6. Save the table, switch to Datasheet view, resize the Invoice Item column to its best fit, and then click one of the Invoice Item boxes. An arrow does not appear in the Invoice Item box because the InvoiceItemID field is no longer a lookup field.
7. Save the table, and then close the tblBilling table.

Before you could change the InvoiceItemID field in the tblBilling table to a lookup field in the previous tutorial, you had to delete the one-to-many relationship between the tblInvoiceItem and tblBilling tables. Now that you've changed the data type of the InvoiceItemID field back to a Short Text field, you'll view the table relationships to make sure that the tables in the Clinic database are related correctly.

To view the table relationships in the Relationships window:

1. On the Ribbon, click the **DATABASE TOOLS** tab, and then in the Relationships group, click the **Relationships** button to open the Relationships window. See Figure 6-2.

Figure 6-2 Clinic database tables in the Relationships window



The tblVisit table and the related tblBilling table have a one-to-many relationship with referential integrity enforced. You need to establish a similar one-to-many relationship between the tblInvoiceItem and tblBilling tables.

2. Double-click the **relationship line** between the tblInvoiceItem and tblBilling tables to open the Edit Relationships dialog box.
3. Click the **Enforce Referential Integrity** check box, click the **Cascade Update Related Fields** check box, and then click the **OK** button to define the one-to-many relationship between the two tables and to close the dialog box. The join line connecting the tblInvoiceItem and tblBilling tables indicates the type of relationship (one-to-many) with referential integrity enforced.

Cindi asks you to print a copy of the database relationships to use as a reference, and she asks if other Access documentation is available.

Printing Database Relationships and Using the Documenter

You can print the Relationships window to document the fields, tables, and relationships in a database. You can also use the **Documenter**, another Access tool, to create detailed documentation of all, or selected, objects in a database. For each selected object, the Documenter lets you print documentation, such as the object's properties and relationships, and the names and properties of fields used by the object. You can use the documentation to help you understand an object and to help you plan changes to that object.

REFERENCE

Using the Documenter

- Start Access and open the database you want to document.
- In the Analyze group on the DATABASE TOOLS tab, click the Database Documenter button.
- Select the object(s) you want to document.
- If necessary, click the Options button to select specific documentation options for the selected object(s), and then click the OK button.
- Click the OK button, print the documentation, and then close the Object Definition window.

Next, you'll print the Relationships window and use the Documenter to create documentation for the tblVisit table.

PROSKILLS

Written Communication: Satisfying User Documentation Requirements

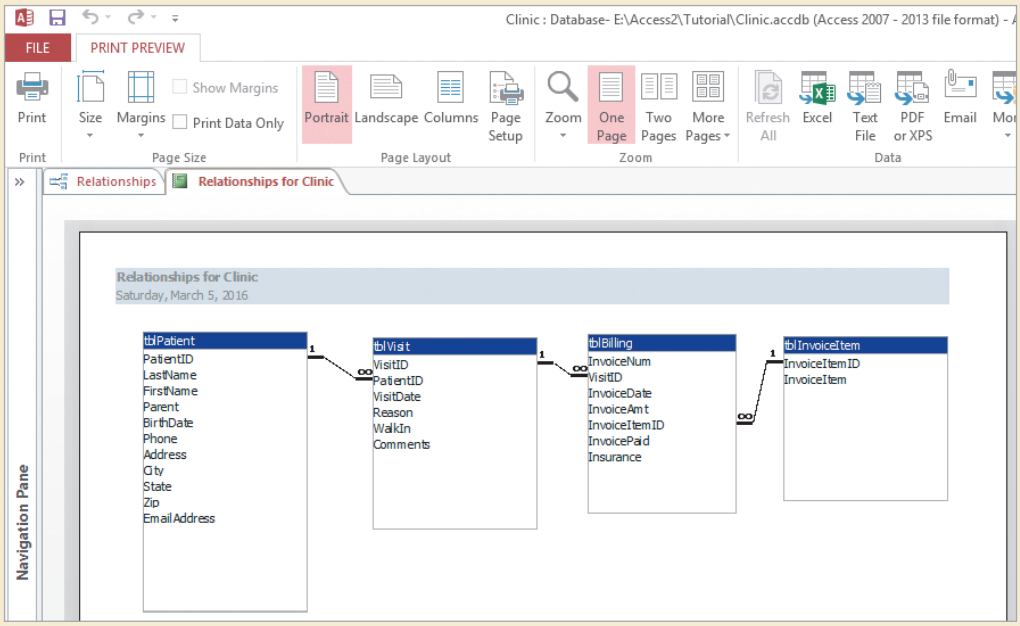
The Documenter produces object documentation that is useful to the technical designers, analysts, and programmers who develop and maintain Access databases and who need to understand the minutiae of a database's design. However, users who interact with databases generally have little interest in the documentation produced by the Documenter. Users need to know how to enter and maintain data using forms and how to obtain information using forms and reports, so they require special documentation that matches these needs; this documentation isn't produced by the Documenter, though. Many companies assign one or more users the task of creating the documentation needed by users based on the idea that users themselves are the most familiar with their company's procedures and understand most clearly the specific documentation that they and other users require. Databases with dozens of tables and with hundreds of other objects are complicated structures, so be sure you provide documentation that satisfies the needs of users separate from the documentation for database developers.

Cindi will show her staff the tblVisit table documentation as a sample of the information that the Documenter provides.

To view the Relationships report and use the Documenter:

1. On the DESIGN tab, in the Tools group, click the **Relationship Report** button to open the Relationships for Clinic report in Print Preview. See Figure 6-3.

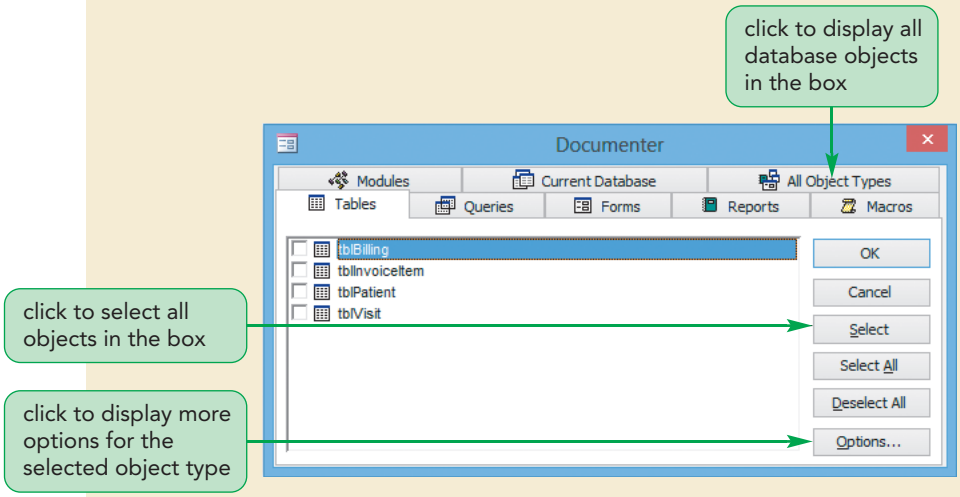
Figure 6-3 **Relationships for Clinic report**



2. Right-click the **Relationships for Clinic** tab and click **Close** to close the tab. A dialog box opens and asks if you want to save the report.
3. Click the **Yes** button to save the report, click the OK button to save using the default name Relationships for Clinic, and then close the Relationships window.

   Now you'll use the Documenter to create detailed documentation for the tblVisit table as a sample to show Cindi.
4. On the Ribbon, click the **DATABASE TOOLS** tab. In the Analyze group, click the **Database Documenter** button, and then click the **Tables** tab (if necessary) in the Documenter dialog box. See Figure 6-4.

Figure 6-4 **Documenter dialog box**

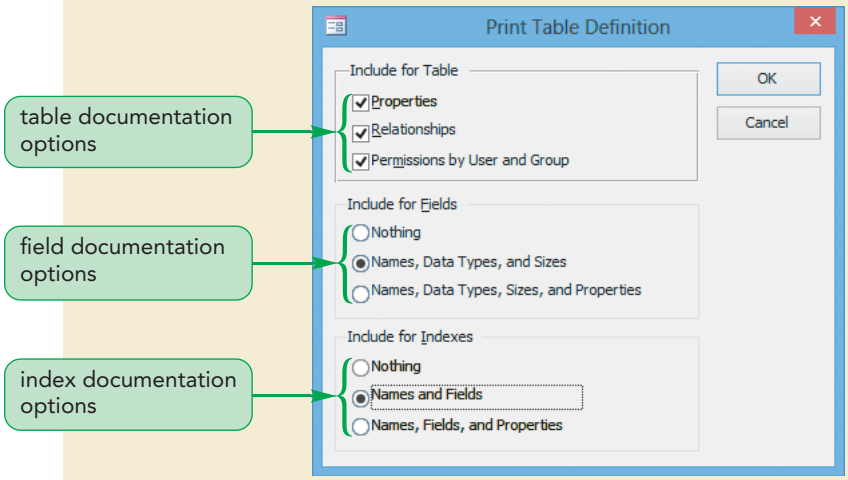


5. Click the **tblVisit** check box, and then click the **Options** button. The Print Table Definition dialog box opens on top of the Documenter dialog box.

   You select which documentation you want the Documenter to include for the selected table, its fields, and its indexes. Cindi asks you to include all table documentation and the second options for fields and for indexes.

6. Make sure all check boxes are checked in the Include for Table section, click the **Names, Data Types, and Sizes** option button in the Include for Fields section (if necessary), then click the **Names and Fields** option button in the Include for Indexes section (if necessary). See Figure 6-5.

Figure 6-5 **Print Table Definition dialog box**



7. Click the **OK** button, and then click the **OK** button. The Documenter dialog box closes and the Object Definition report opens in Print Preview.

8. On the PRINT PREVIEW tab, in the Zoom group, click the **Zoom button arrow**, and then click **Zoom 100%**.

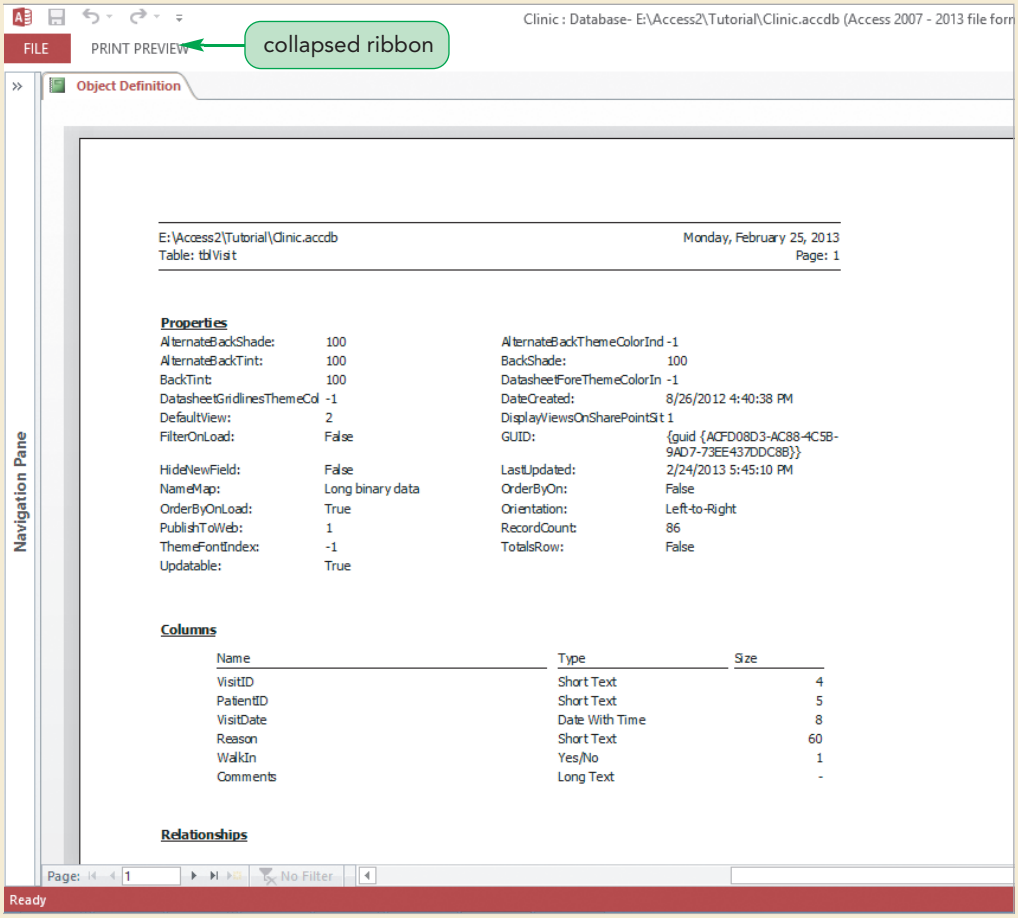
   When you need to view more of the horizontal contents of an open object, you can close the Navigation Pane. You can also collapse the Ribbon when you want to view more of the vertical contents of an open object. To collapse the Ribbon, double-click any tab on the Ribbon, or right-click a tab and then click Collapse the Ribbon on the shortcut menu. To restore the Ribbon, double-click any tab on the Ribbon, or right-click a tab and then click Collapse the Ribbon (it's a toggle option) on the shortcut menu.

9. Double-click the **PRINT PREVIEW** tab on the Ribbon to minimize the Ribbon, and then scroll down the report and examine its contents. See Figure 6-6.

TIP

If you click, instead of double-click, any tab on the collapsed Ribbon, the full Ribbon appears until you click anywhere outside the Ribbon.

Figure 6-6 **Object Definition report for the tblVisit table**



The Object Definition report displays table, field, and relationship documentation for the tblVisit table. Next, you'll save the report as a PDF document.

10. Click the **PRINT PREVIEW** tab, in the Data group, click the **PDF or XPS** button, change the filename to **ClinicDocumenter.pdf**, click the **Publish** button to save the file, and then click the **Close** button to close without saving the steps.

Trouble? If the PDF you created opens automatically during Step 10, close the PDF viewer and then complete the step.

11. Print the documentation if your instructor asks you to do so, and then close the Object Definition report. Notice that the Navigation Pane is closed and the Ribbon is minimized.

Cindi and her staff will review the Relationships report and the documentation about the tblVisit table and decide if they need to view additional documentation.

Next Cindi would like you to create a form that allows her and her staff to see and modify the relevant data for patient visits. You'll create a selection of form designs for Cindi to choose from. You'll create two simple forms that show the contents of the tblVisit in a layout that looks like a table, and you'll create a custom form that Cindi's staff may find a bit more user-friendly. First, you'll create the simple forms for Cindi and her staff.

Creating Forms Using Form Tools

The Clinic database currently contains the frmPatient form. The frmPatient form was created using the Form Wizard with some design changes that were made in Layout view including changing the theme, changing the form title color and line type, adding a picture, and moving a field.

PROSKILLS

Decision Making: Creating Multiple Forms and Reports

When developing a larger database application for a client, it's not uncommon for the client not to know exactly what they want with respect to forms and reports. You may obtain some sample data and sample reports during the requirements gathering phase that give you some ideas, but in the end, the client must approve the final versions.

While you are actively developing the application, you may design different versions of forms and reports that you think will meet the client's needs; later in the process, you might narrow the selection to a few forms and reports. Ultimately, you bring the selections to the client, who makes the final choices of which forms and reports to incorporate into the database. By basing your forms and reports on both a planning phase, performed in conjunction with the client, and a final selection made by the client, the project is much more likely to meet the client's needs.

You can create a simple form using the Datasheet Tool. This form can display all of the fields from a table or query, using a datasheet layout. The datasheet layout for a table provides the same view as the datasheet view for a table. Cindi may prefer this if she and her staff are very comfortable entering data in an Access table using the datasheet.

Creating a Form Using the Datasheet Tool

The **Datasheet tool** creates a form in a datasheet format that contains all the fields in the source table or query. You'll use the Datasheet tool to create a form based on the tblVisit table.

To create the form using the Datasheet tool:

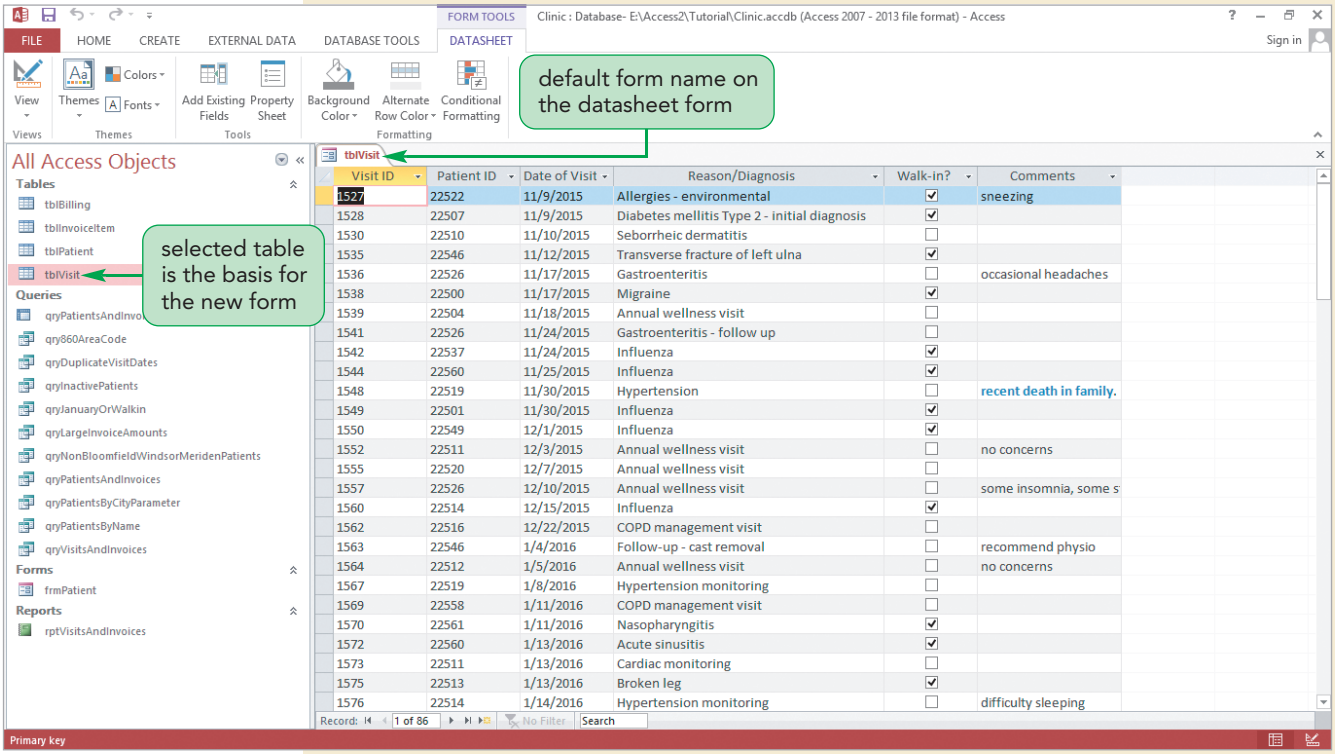
1. Open the Navigation Pane, and then click **tblVisit** (if necessary).

   When you use the Datasheet tool, the record source (either a table or query) for the form must either be open or selected in the Navigation Pane.

2. Double-click the **CREATE** tab on the Ribbon to restore the Ribbon and to display the CREATE tab.

3. In the Forms group, click the **More Forms** button, click **Datasheet**, and then, if necessary, close the Property Sheet. The Datasheet tool creates a form showing every field in the tblVisit table in a datasheet format. It looks like the Datasheet view for the table but it does not have the expand buttons at the beginning of each row. See Figure 6-7.

Figure 6-7 Form created by the Datasheet tool

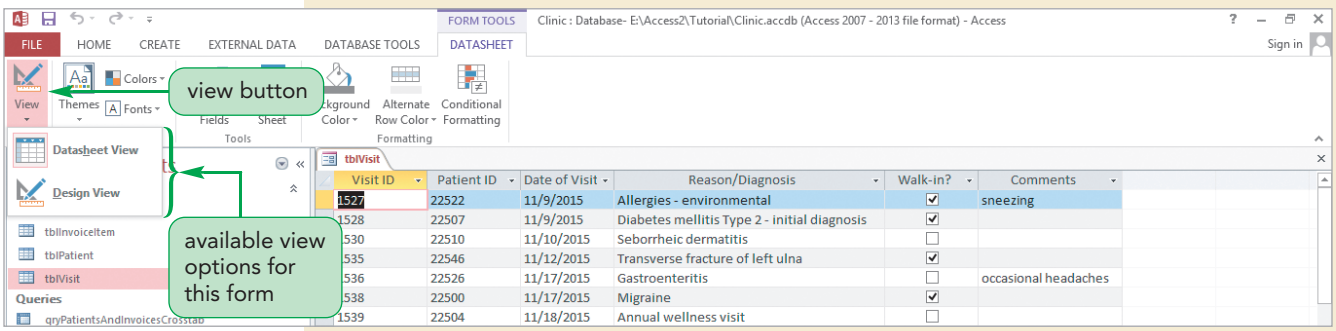


On the right side of the status bar, two view icons appear, one for Datasheet view (selected) and the other for Design view. The form name, tblVisit, is the same name as the table used as the basis for the form. Each table and query in a database must have a unique name. Although you could give a form or report the same name as a table or query, doing so would likely cause confusion. Fortunately, using object name prefixes prevents this confusing practice, and you would change the name when you save the form.

When working with forms, you view and update data in Form view, you view and make simple design changes in Layout view, and you make simple and complex design changes in Design view. Not all of these views are available for every form. For the form created with the Datasheet tool, you'll check the available view options.

4. In the Views group on the DATASHEET tab, click the **View button arrow**. See Figure 6-8.

Figure 6-8 View options for a form created by the Datasheet tool



Form view and Layout view are not options in the list, which means that they are unavailable for this form type. Datasheet view allows you to view and update data, and Design view is the only other view option for this form.

You'll save this form to show Cindi as one of the options for the forms for patient visits.

5. Save the form as **frmVisitDatasheet** and close the form.

Cindi might not like the datasheet view since the Comments field is not fully displayed. She might like the form created using the Multiple Items tool better since it will provide larger text boxes for the data. Next, you'll create a form for Cindi using the Multiple Items tool.

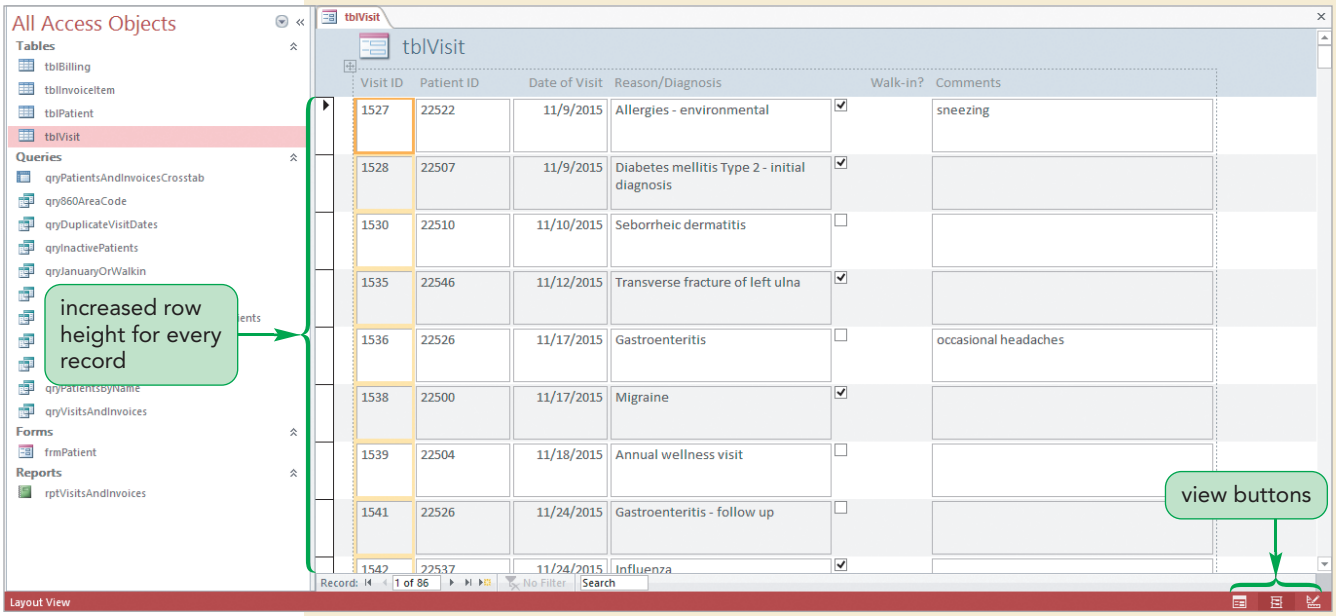
Creating a Form Using the Multiple Items Tool

The **Multiple Items tool** creates a customizable form that displays multiple records from a source table or query in a datasheet format. You'll use the Multiple Items tool to create a form based on the tblVisit table.

To create the form using the Multiple Items tool:

1. Make sure that the tblVisit table is selected in the Navigation Pane, and then click the **CREATE** tab on the Ribbon.
2. In the Forms group, click the **More Forms** button and then click **Multiple Items**. The Multiple Items tool creates a form showing every field in the tblVisit table and opens the form in Layout view. See Figure 6-9.

Figure 6-9 Form created by the Multiple Items tool



The new form displays all the records and fields from the tblVisit table in a format similar to a datasheet, but the row height for every record is increased compared to a standard datasheet. Unlike a form created by the Datasheet tool, which has only Datasheet view and Design view available, a Multiple Items form is a standard form that can be displayed in Form view, Layout view, and Design view, as indicated by the buttons on the right side of the status bar.

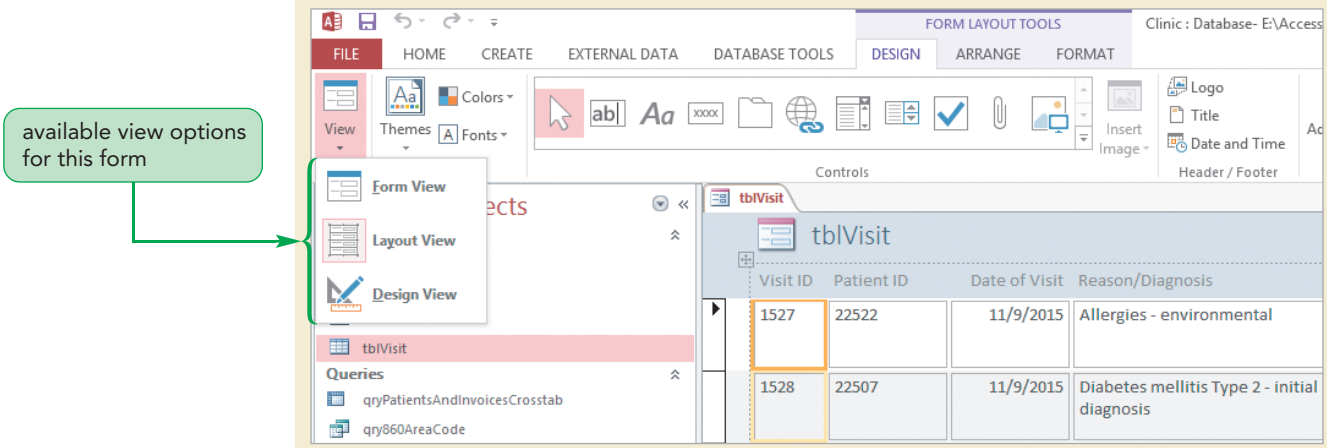
For the form created with the Multiple Items tool, you'll check the available view options.

TIP

You can click one of the view buttons on the right side of the status bar to switch to another view.

3. On the DESIGN tab, in the Views group, click the **View button arrow**. Form view, Layout view, and Design view are the available views for this form. See Figure 6-10.

Figure 6-10 **View options for a form created by the Multiple Items tool**



You'll want to show this form to Cindi as one of the options, so you'll save it.

4. Save the form as **frmVisitMultipleItems**, and then close the form.

The final form you'll create to show Cindi will include the standard form inputs and the datasheet view. She might like this to satisfy both the staff that are more technical and the staff that would like a more user-friendly form. The tool you'll use to create this is the Split Form tool.

Creating a Form Using the Split Form Tool

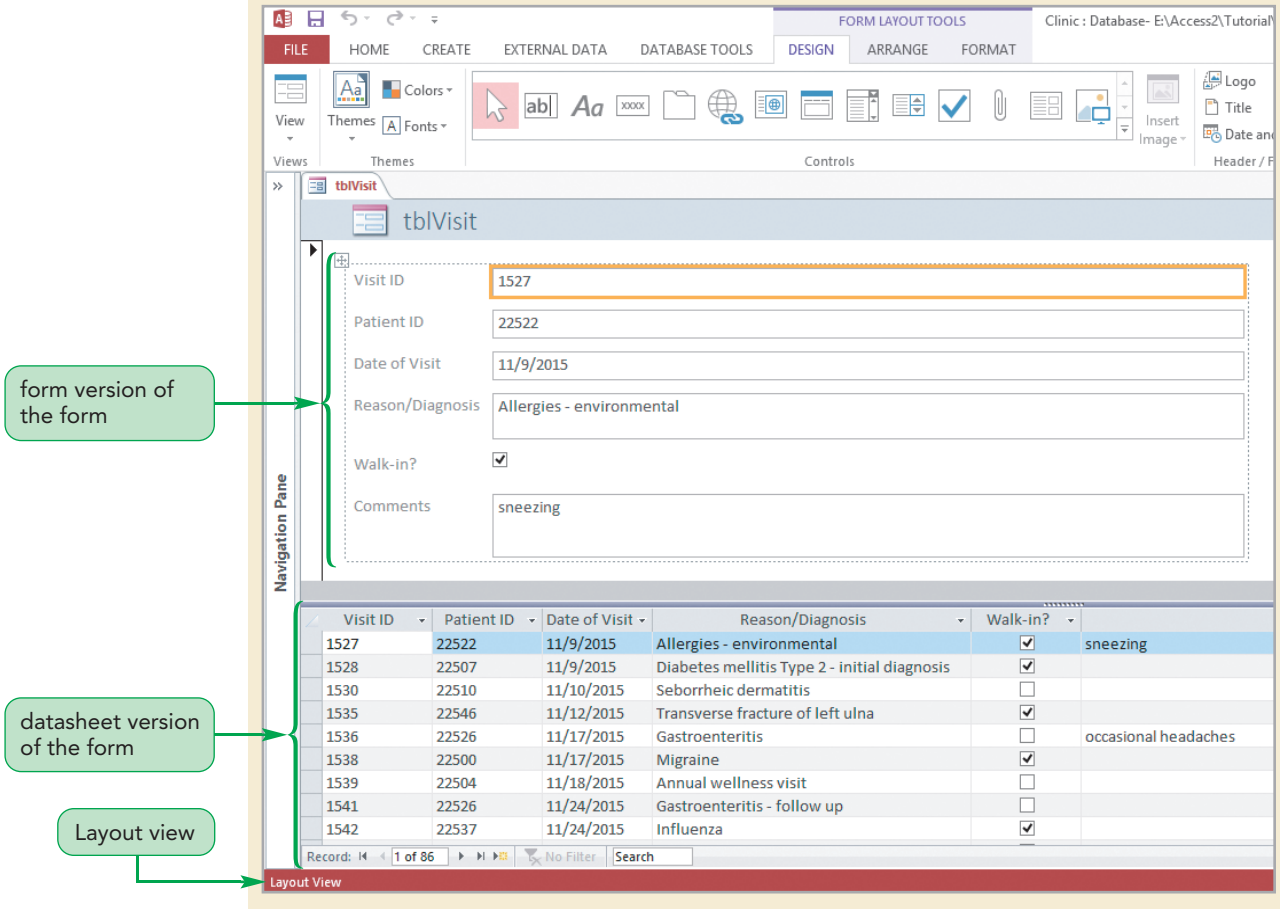
The Split Form tool creates a customizable form that displays the data in a form in both Form view and Datasheet view at the same time. The two views are synchronized with each other at all times. Selecting a record in one view selects the same record in the other view. You can add, change, or delete data from either view. Typically, you'd use Datasheet view to locate a record, and then use Form view to update the record. You'll use the Split Form tool to create a form based on the tblVisit table.

To create the form using the Split Form tool:

1. Make sure that the tblVisit table is selected in the Navigation Pane, and then click the **CREATE** tab on the Ribbon.

2. In the Forms group, click the **More Forms** button, click **Split Form** on the menu, and then close the Navigation Pane. The Split Form tool creates a split form that opens in Layout view and displays a form with the contents of the first record in the tblVisit table on the top and a datasheet of the first several records in the tblVisit table on the bottom. The position of the form in Layout view will be either a single column or two columns, depending on the height of the Access window when the form was created. If you have a two-column layout, that won't affect your ability to complete the steps that follow. Figure 6-11 shows the single column layout.

Figure 6-11 **Form created by the Split Form tool**



In Layout view, you can make layout and design changes to the form and layout changes to the datasheet. Cindi thinks the split form will be a useful addition to the Clinic database, and she wants you to show her the types of design modifications that are possible with a split form.

Modifying a Split Form in Layout View

You use the options on the DESIGN tab on the Ribbon to add controls and make other modifications to the form but not to the datasheet. In previous tutorials, you've modified forms using options on the FORMAT tab. Other powerful options are available on the ARRANGE tab. For a split form, options on the ARRANGE tab apply only to the form and do not apply to the datasheet.

To modify the form in Layout view:

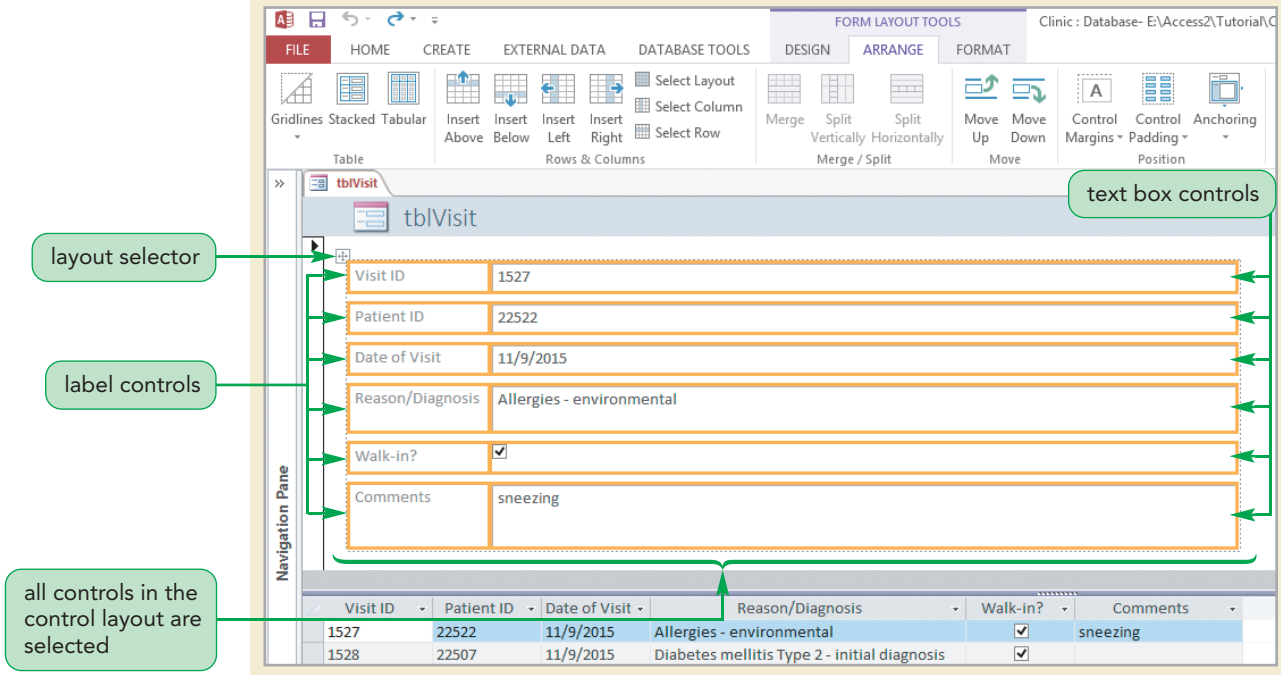
1. Click the **ARRANGE** tab on the Ribbon.

   The form's label and field value box controls for the fields from the tblVisit table are grouped in a control layout. A **control layout** is a set of controls grouped together in a form or report, so that you can manipulate the set as a single control. For example, you can move and resize all the controls in a control layout as a group; moving or resizing one control in the control layout moves or resizes all controls in the control layout. You also can rearrange fields and their attached labels within the control layout.

   All the text boxes in the control layout are the same width. The first three text boxes, Visit ID, Patient ID and Date of Visit, are much wider than necessary. However, if you reduce the width of any text box in a control layout, all text boxes in the control layout are also resized. Cindi wants you to reduce the width of the first three text boxes and to move and resize the Reason/Diagnosis label and text box.

2. Click the **layout selector** which is located at the top-left corner of the Visit ID label, to select all controls in the control layout. An orange outline, which identifies the controls that you've selected, appears around the labels and field value boxes in the form. See Figure 6-12.

Figure 6-12 Control layout selected in the form



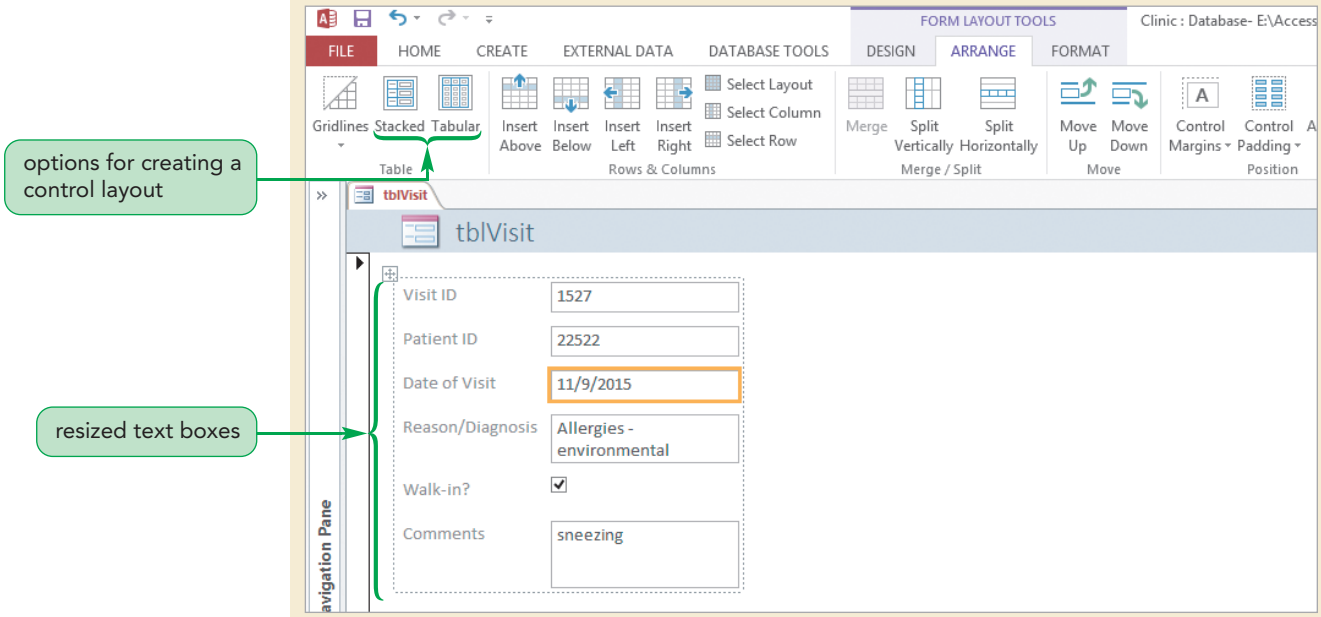
Trouble? If the layout selector wasn't visible, or if only one large orange outline appears outside the controls but not around each individual control, click the VisitID text box, and then repeat Step 2.

Next, you'll resize the text boxes in the control layout.

3. Click the **VisitDate** text box (the text box that contains the value 11/9/2015) to deselect the control layout and select the VisitDate text box.

4. Position the pointer on the right edge of the VisitDate text box until the pointer changes to a ↔ shape, click and drag to the left until the right edge is just to the right of the VisitDate field value, and then release the mouse button. If you have a one-column layout, you've resized all five text boxes. If you have a two-column layout, you've resized the three text boxes on the left. Figure 6-13 shows the single-column layout.

Figure 6-13 **After resizing the text boxes in the control layout**



Trouble? If you resize the text boxes too far to the left, number signs appear inside the VisitDate and PatientID text boxes. Drag the right edge of the VisitDate text box slightly to the right and repeat the process until the date values are visible inside the text boxes.

The control layout for the form is a stacked layout, which arranges field value box controls vertically with a label control to the left of each field value box control in one or more vertical columns; you click the Stacked button in the Table group to place selected controls in a stacked layout. You can also choose a tabular layout, which arranges field value box controls in a datasheet format with labels above each column; you click the Tabular button in the Table group to place selected controls in a tabular layout.

You can now remove the Reason/Diagnosis text box, the Walk-in? check box, the Comments text box, and their labels from the stacked layout, move the four controls, and then resize the text boxes.

5. Click the **Reason** text box, hold down the **Ctrl** key, click the **Reason/ Diagnosis label**, the **Walk-in? label**, the **Walk-in? check box**, the **Comments text box,** and the **Comments label** to select all six controls, and then release the **Ctrl** key. Right-click the **Reason** text box to open the shortcut menu, point to **Layout**, and then click **Remove Layout**. You've removed the six selected controls from the stacked layout.

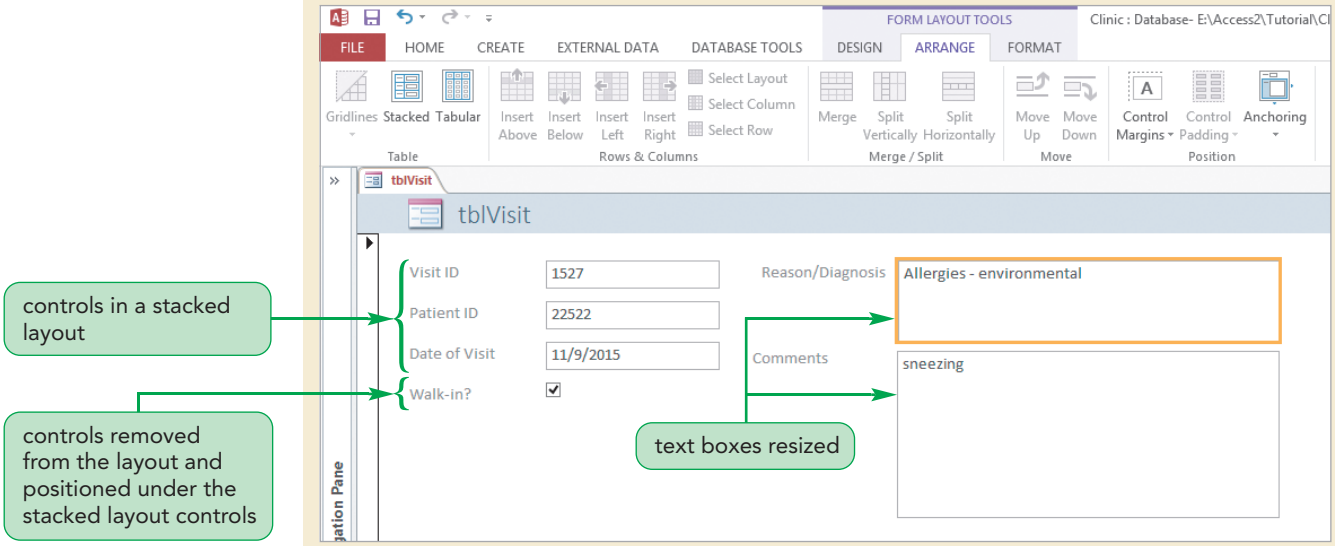
6. If your form has the single-column layout shown in Figure 6-13, make sure that the six controls are selected, and then drag them up and to the right until their tops are aligned with the top of the VisitID controls.

Trouble? If your form already has a two-column layout, you don't need to complete Step 6; proceed to Step 7.

7. Click the **Walk-in? label** to select it, hold down the **Ctrl** key, and click the **Walk-in? checkbox** to select it. Drag these back to the left, below the Date of Visit label and text box.

   See Figure 6-14. (Note: You will resize the Reason/Diagnosis and Comments text boxes in the next step.)

Figure 6-14 After moving and resizing the Reason and Comments controls



8. Click the **Comments** label, hold down the **Ctrl** key, click the **Comments** text box, and then drag both controls down. Click the **Comments** text box, and then drag the right edge of the control to the right and the bottom edge of the control down to the positions shown in Figure 6-14.

9. Click the **Reason** text box so that it's the only selected control, and then drag the right edge of the control to the right and the bottom edge of the control down to the positions shown in Figure 6-14.

   Trouble? It won't cause any problems if the controls on your screen are in slightly different positions than the ones shown in the figure.

   You do not usually need to change the default settings for the Control Margins property, which controls the spacing around the text inside a control, or the Control Padding property, which controls the spacing around the outside of a control. However, you'll explore the effects of changing these properties.

10. Click one of the controls in the stacked layout, and then click the **layout selector** to select all controls in the stacked layout.

11. Click the **ARRANGE** tab, in the Position group click the **Control Margins** button, and then click **Medium**. The text inside the stacked layout controls moves down slightly.

12. Click the **Control Margins** button, click **Wide** and observe the effect of this setting on the text inside the controls, click the **Control Margins** button, click **None** and observe the effect of this setting, click the **Control Margins** button, and then click **Narrow**. Narrow is the default setting for the Control Margins property.

    Narrow is also the default setting for the Control Padding property.

13. In the Position group, click the **Control Padding** button, click **Medium** and observe the change to the spacing around the controls, and then repeat for the other settings of this property, making sure you set the property to **Narrow** as your final step.

Next, you'll anchor the controls.

Anchoring Controls in a Form

You can design forms that use the screen dimensions effectively when all the users of a database have the same sized monitors and use the same screen resolution. How do you design forms when users have a variety of monitor sizes and screen resolutions? If you design a form to fit on large monitors using high screen resolutions, then only a portion of the controls in the form fit on smaller monitors with lower resolutions, forcing users to scroll the form. If you design a form to fit on smaller monitors with low screen resolutions, then the form displays on larger monitors in a small area in the upper-left corner of the screen, making the form look unattractively cramped. As a compromise, you can anchor the controls in the form. As shown in the Visual Overview for this session, as the screen size and resolution change, the Anchor property for a control automatically resizes the control and places it in the same relative position on the screen. Unfortunately, when you use the Anchor property, Access doesn't scale the control's font size to match the screen size and resolution. Sometimes the results of anchoring controls works well, but sometimes the controls are spaced across a large screen and the form may seem unorganized with controls moved to the corners of the screen.

Next, you'll anchor controls in a form. Because all monitors at Chatham Community Health Services are the same size and use the same resolution, first you'll save the split form, so that you can demonstrate anchoring and then discard the anchoring changes to the form.

To anchor controls in the form:

1. Save the form as **frmVisitSplit**.

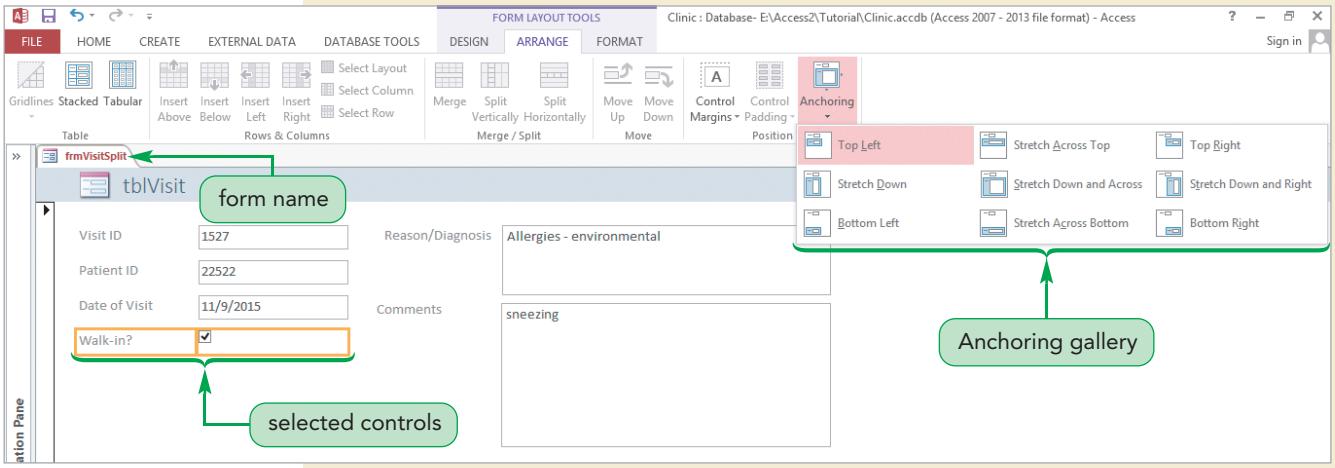
   You can't anchor individual controls in a control layout; you can only anchor the entire control layout as a group. You've already removed the Reason/Diagnosis, Walk-in?, and Comments controls from the stacked layout, so you can anchor them separately from the stacked layout. You'll have four sets of controls to anchor—the stacked layout is one set, the Reason/Diagnosis controls are in the second set, the Comments controls are the third set, and the Walk-in? controls make up the fourth set.

   First, you'll select and anchor the Walk-in? controls.

2. Click the **Walk-in?** label, hold down the **Ctrl** key, and then click the **WalkIn** check box.

3. On the ARRANGE tab, in the Position group, click the **Anchoring** button to open the Anchoring gallery. See Figure 6-15.

Figure 6-15 Displaying the Anchoring gallery



Four of the nine options in the Anchoring gallery fix the position of the selected controls in the top left (the default setting), bottom left, top right, or bottom right positions in the form. If other controls block the corner positions for controls you're anchoring for the first time, the new controls are positioned in relation to the blocking controls. The other five anchoring options resize (or stretch) and position the selected controls.

You'll anchor the Walk-in? controls in the bottom left, the Reason/Diagnosis controls in the top right, and the Comments controls in the bottom right.

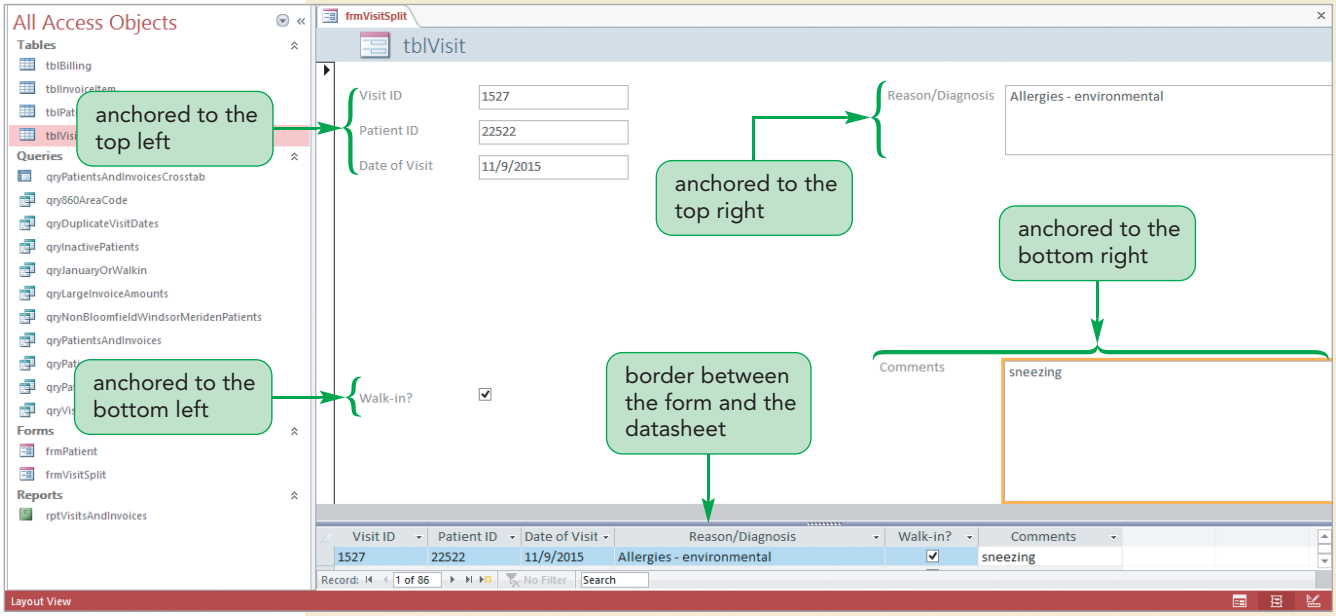
4. Click **Bottom Left** in the Anchoring gallery, click the **Reason** text box, click the **Anchoring** button, and then click **Top Right**. Click the **Comments** text box, click the **Anchoring** button, then click **Bottom Right**. The Walk-in? controls are shifted down, the Reason controls are shifted up and to the right, and the Comments controls are shifted down and to the right.

   Next, you'll increase the height of the form to simulate the effect of a larger screen for the form.

5. Open the Navigation Pane. The four sets of controls on the left shift to the right because the horizontal dimensions of the form decreased from the left, and these four sets of controls are anchored to the left in the form. The Reason and Comments controls remain in the same position in the form.

6. Position the pointer on the border between the form and the datasheet until the pointer changes to a ↕ shape, and then drag down until you see only the column headings and the first row in the datasheet. The bottom sets of controls shift down, because they are anchored to the bottom, and the two sets of controls at the top remain in the same positions in the form. See Figure 6-16.

Figure 6-16 **Anchored controls in a resized form**



Finally, you'll use another anchoring option to resize the Comments text box as the form dimensions change.

7. Click the **Comments** text box (if necessary), click the **Anchoring** button, and then click **Stretch Down and Right**. Because the Comments text box is already anchored to the bottom right, it can't stretch any more to the right, but it does stretch up while leaving the label in place, to increase the height of the text box.

8. Position the pointer on the border between the form and the datasheet until the pointer changes to a ✢ shape, and then drag up until you can see several rows in the datasheet. The bottom set of controls shifts up, and the bottom edge of the Comments text box shifts up, reducing its height.

   You've finished adjusting the Layout view changes to the split form, so you can close the form without saving the anchoring changes.

9. Save the frmVisitSplit form, and then close the form.

10. If you are not continuing on to the next session, close the Clinic database.

    You've used form tools to create forms, and you've modified forms in Layout view. In the next session, you will continue your work with forms.

REVIEW

Session 6.1 Quick Check

1. Which object(s) should you use to perform all database updates?
2. The _____ property specifies the data source for a control in a form or report or for a field in a table or query.
3. What is the Documenter?
4. What is the Multiple Items tool?
5. What is a split form?
6. As the screen's size and resolution change, the _____ property for a control automatically resizes the control.

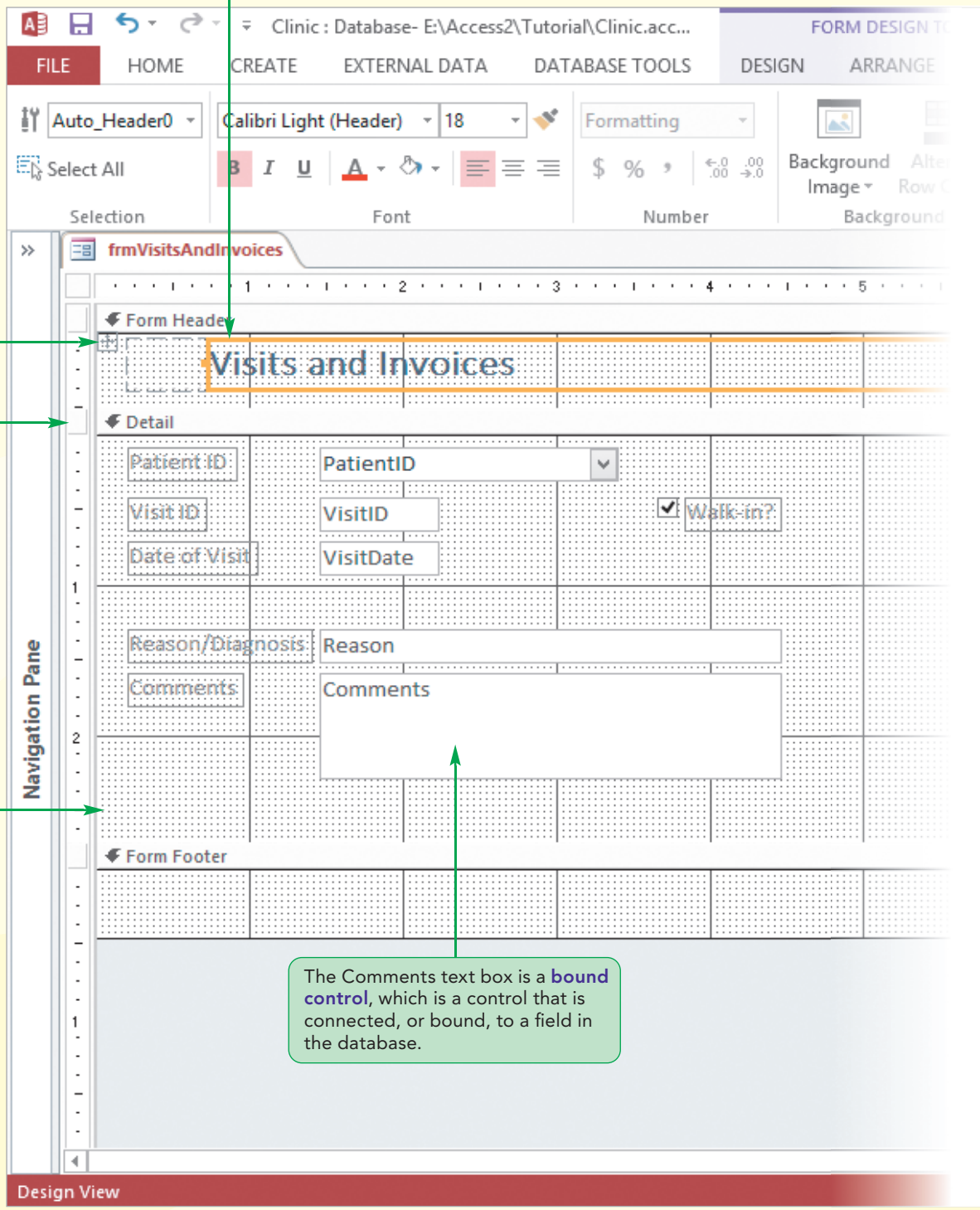
Session 6.2 Visual Overview:

To move selected controls to the next nearest grid dot, hold down the Ctrl key and press the appropriate arrow key.

The larger handle in a control's upper-left corner is its **move handle**, which you use to move the control.

You can click the **Detail section bar** to select the entire Detail section.

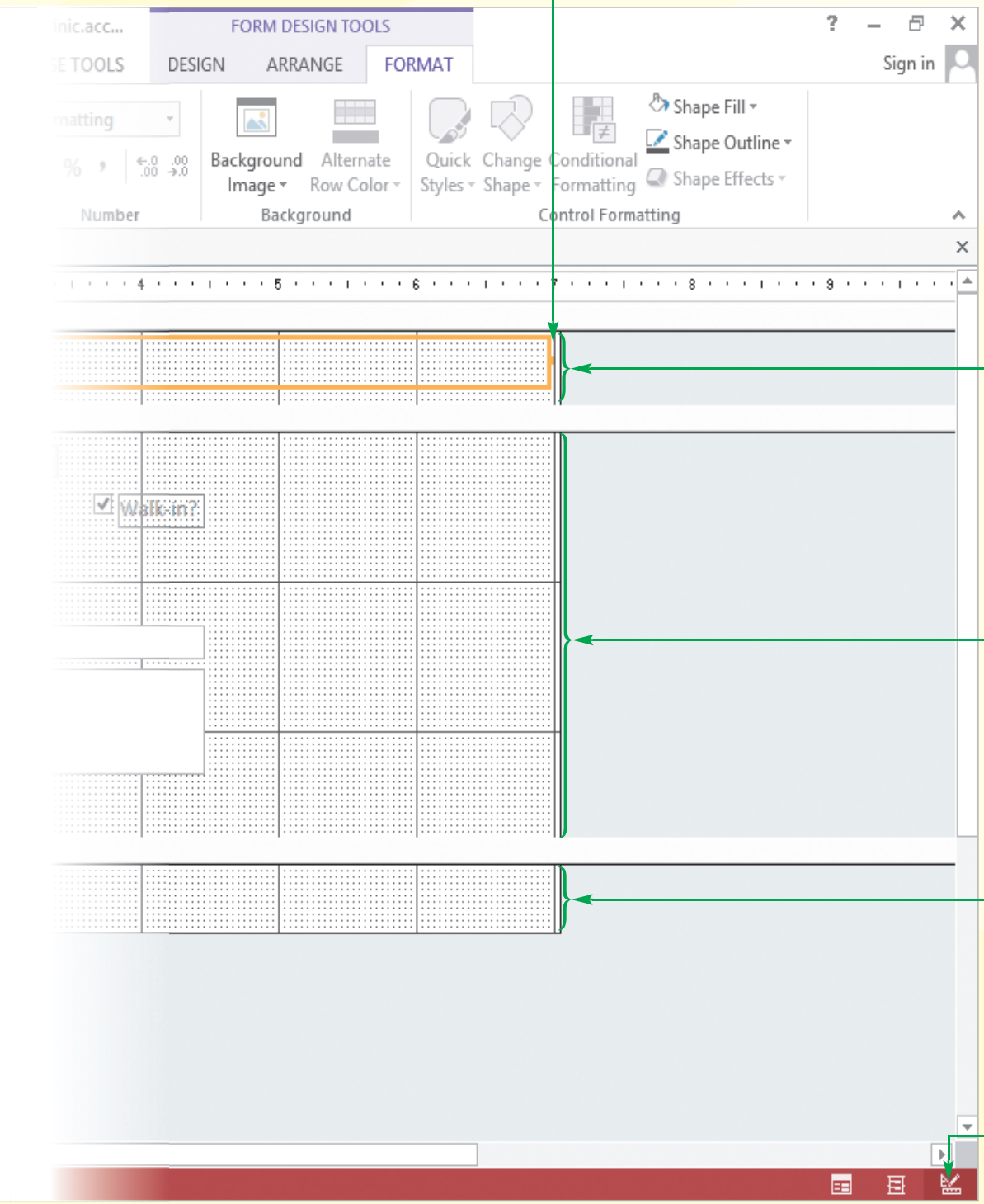
The **grid** is the area with dotted and solid lines that helps you position controls precisely in a form.



The Comments text box is a **bound control**, which is a control that is connected, or bound, to a field in the database.

Form in Design View

The **sizing handles** located on the edges and corners are used to resize the control.



The Form Header section contains a title object and can contain other objects that will appear at the top of the form.

The **Detail section** is the main section of the form.

The Form Footer section contains objects that will appear at the bottom of the form.

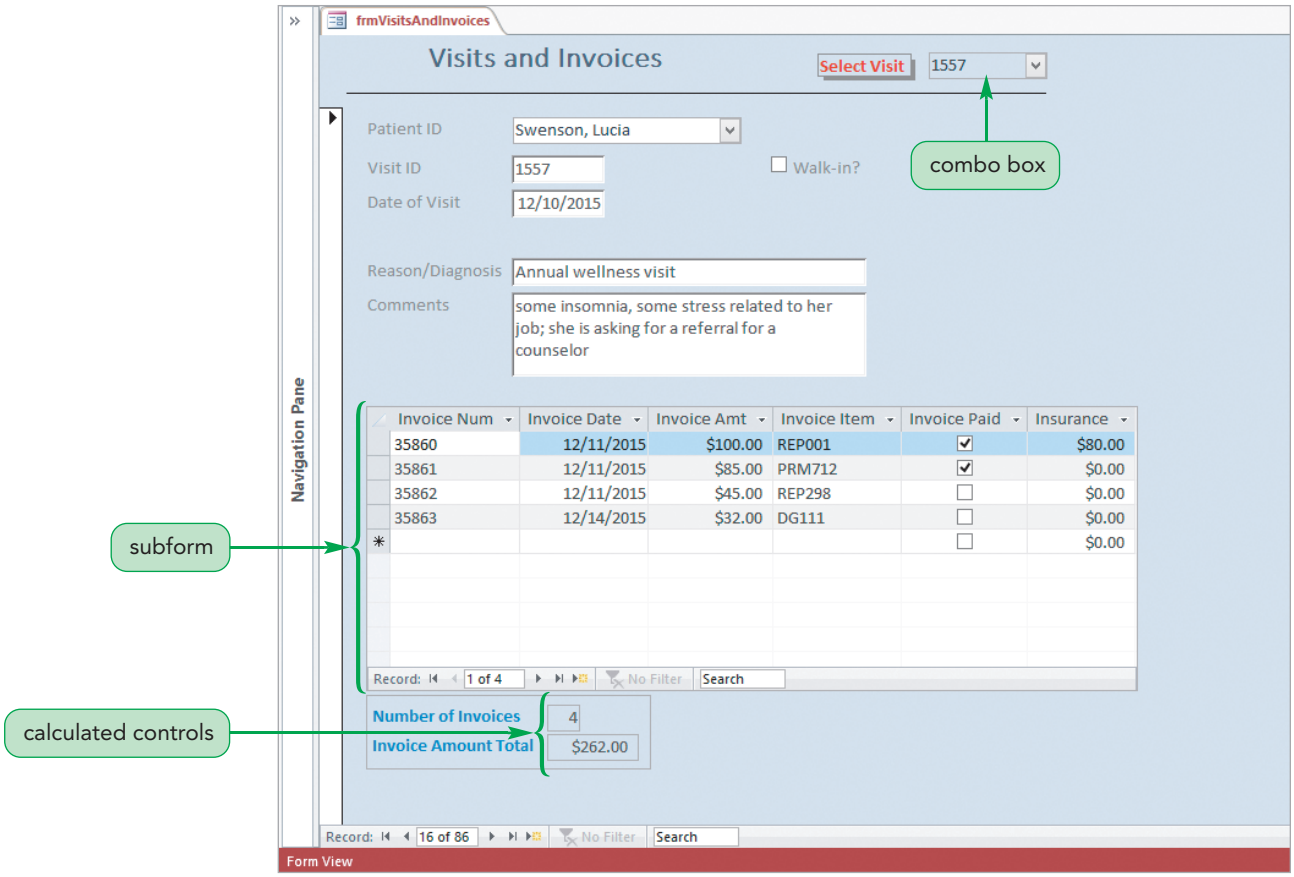
The Design View button displays the form with the grid.

Planning and Designing a Custom Form

Cindi needs a form to enter and view information about Chatham Community Health Services visits and their related invoices. She wants the information in a single form, and she asks Raj to design a form for her review.

After several discussions with Cindi and her staff, Raj prepared a sketch for a custom form to display a patient visit and its related invoices. Raj then used his paper design to create the form shown in Figure 6-17.

Figure 6-17 Raj's design for the custom form



Notice that the top of the form displays a title and a combo box to select a visit record. Below these items are six field values with identifying labels from the tblVisit table; these fields are the PatientID, VisitID, WalkIn, VisitDate, Reason, and Comments fields. The PatientID field is displayed in a combo box, the WalkIn field is displayed as a check box, and the other field values are displayed in text boxes. The tblBilling table fields appear in a subform, a separate form contained within another form. Unlike the tblVisit table data, which displays identifying labels to the left of the field values in field value boxes, the tblBilling table data is displayed in datasheet format with identifying column headings above the field values. Finally, the Number of Invoices and Invoice Amount Total calculated controls in the main form display values based on the content of the subform.

Creating a Custom Form in Design View

To create Raj's custom form, you could use the Form Wizard to create a basic version of the form and then customize it in Layout and Design views. However, for the form that Raj designed, you would need to make many modifications to a basic form

created by a wizard. You can instead build the form in a more straightforward manner by creating it directly in Design view. Creating forms in Design view allows you more control and precision, and provides more options than creating forms in Layout view. You'll also find that you'll create forms more productively if you switch between Design view and Layout view because some design modifications are easier to make in one of the two views than in the other view.

The Form Window in Design View

You can use the Form window in Design view to create and modify forms. To create the custom form based on Raj's design, you'll create a blank form, add the fields from the tblVisit and tblBilling tables, and then add other controls and make other form modifications.

REFERENCE

Creating a Form in Design View

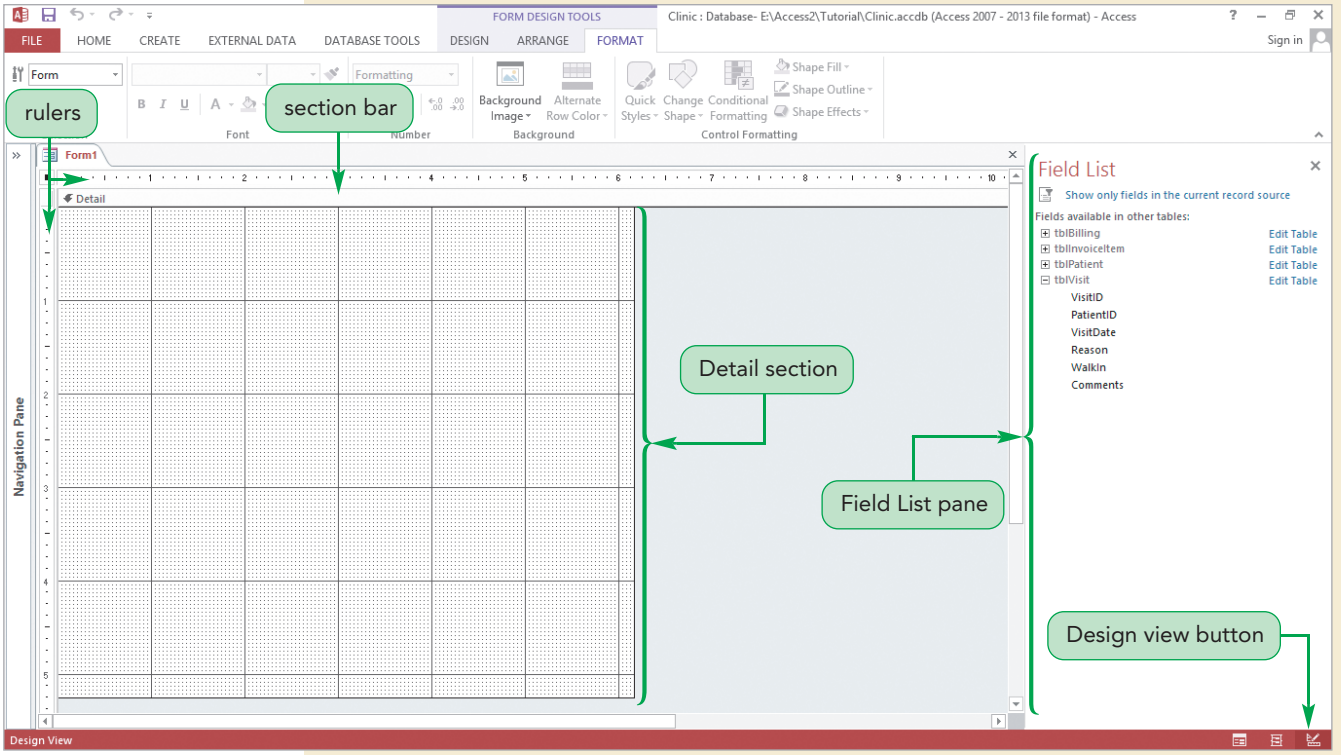
- Click the CREATE tab on the Ribbon.
- In the Forms group, click the Blank Form button.
- Click the Design View button on the status bar.
- Make sure the Field List pane is open, and then add the required fields to the form.
- Add other required controls to the form.
- Modify the size, position, and other properties as necessary for the fields and other controls in the form.
- Save the form.

The form you'll create will be a bound form. A **bound form** is a form that has a table or query as its record source. You use bound forms for maintaining and displaying table data. **Unbound forms** are forms that do not have a record source and are usually forms that help users navigate among the objects in a database. Now you'll create a blank bound form based on the tblVisit table.

To create a blank form in Design view:

1. If you took a break after the previous session, make sure that the Clinic database is open and the Navigation Pane is open.
2. Click the **CREATE** tab on the Ribbon and then, in the Forms group, click the **Blank Form** button. Access opens the Form window in Layout view.
3. Click the **Design View** button on the status bar to switch to Design view, and then close the Navigation Pane. See Figure 6-18.

Figure 6-18 **Blank form in Design view**



Trouble? If the Field List pane displays the "No fields available to be added to the current view" message, click the "Show all tables" link to display the tables in the Clinic database, and then click the plus sign next to tblVisit in the Field List pane to display the fields in the table.

Trouble? If the tblVisit table in the Field List pane is not expanded to show the fields in the table, click the plus sign next to tblVisit to display the fields.

Design view contains the tools necessary to create a custom form. You create the form by placing controls in the blank form. You can place three kinds of controls in a form:

- A bound control is connected, or bound, to a field in the database. The field could be selected from the fields in a table or query that are used as the record source. You use bound controls to display and maintain table field values.
- An **unbound control** is not connected to a field in the database. You use unbound controls to display text, such as a form title or instructions; to display lines, rectangles, and other objects; or to display graphics and pictures created using other software programs. An unbound control that displays text is called a **label**.
- A **calculated control** displays a value that is the result of an expression. The expression usually contains one or more fields, and the calculated control is recalculated each time any value in the expression changes.

To create a bound control, you add fields from the Field List pane to the Form window, and then position the bound controls where you want them to appear in the form. To place other controls in a form or a report, you use the tools in the Controls and Header/Footer groups on the DESIGN tab; a ScreenTip is available for each control in these groups. The tools in the Controls group let you add controls such as lines, rectangles, images, buttons, check boxes, and list boxes to a form.

Design view for a form contains a Detail section, which is a rectangular area consisting of a grid with a section bar above the grid. You click the section bar to select the section in preparation for setting properties for the entire section. Some forms use Header, Detail, and Footer sections, but a simple form might have only a Detail section. The grid consists of the area with dotted and solid lines that help you position controls precisely in a form. In the Detail section, you place bound controls, unbound controls, and calculated controls in your form. You can change the size of the Detail section by dragging its edges. Rulers at the top and left edges of the Detail section define the horizontal and vertical dimensions of the form and serve as guides for placing controls in a form.

Your first task is to add bound controls to the Detail section for the six fields from the tblVisit table.

Adding Fields to a Form

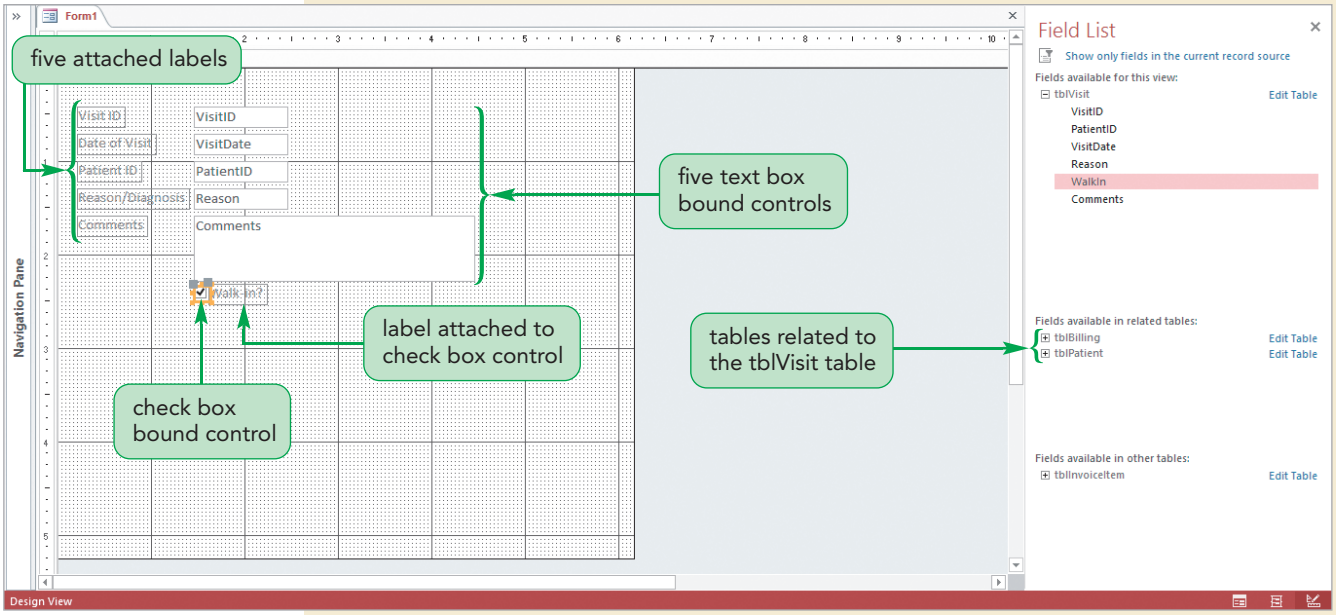
When you add a bound control to a form, Access adds a field value box and, to its left, an attached label. The field value box displays a field value from the record source. The attached label displays either the Caption property value for the field, if the Caption property value has been set, or the field name. To create a bound control, you first display the Field List pane by clicking the Add Existing Fields button in the Tools group on the DESIGN tab. Then you double-click a field in the Field List pane to add the bound control to the Detail section. You can also drag a field from the Field List pane to the Detail section.

Next, you'll add bound controls to the Detail section for the six fields in the Field List pane. The Field List pane displays the four tables in the Clinic database, and the six fields in the tblVisit table.

To add bound controls from the tblVisit table to the grid:

1. Double-click **VisitID** in the Field List pane. Access adds a bound control in the Detail section of the form, places the tblVisit table in the "Fields available for this view" section of the Field List pane, and places the tblBilling and tblPatient tables in the "Fields available in related tables" section.
2. Repeat Step 1 for the **VisitDate, PatientID, Reason, Comments,** and **WalkIn** fields, in this order, in the Field List pane. Six bound controls—one for each of the six fields in the Field List pane—are added in the Detail section of the form. See Figure 6-19.

Figure 6-19 **Adding field value boxes and attached labels as bound controls to a form**



You should periodically save your work as you create a form, so you'll save the form now.

3. Click the **Save** button on the Quick Access Toolbar. The Save As dialog box opens.

4. With the default name Form1 (your name might be different) selected in the Form Name box, type **frmVisitsAndInvoices**, and then press the **Enter** key. The tab for the form now displays the form name, and the form design is saved in the Clinic database.

   You've added the fields you need to the grid, so you can close the Field List pane.

5. Click the DESIGN tab and then, in the Tools group, click the **Add Existing Fields** button to close the Field List pane.

INSIGHT

Suggestions for Building Forms

To help prevent common problems and more easily recover from errors while building forms, you should keep in mind the following suggestions:

- You can click the Undo button one or more times immediately after you make one or more errors or make form adjustments you don't wish to keep.
- You should back up your database frequently, especially before you create new objects or customize existing objects. If you run into difficulty, you can revert to your most recent backup copy of the database.
- You should save your form after you've completed a portion of your work successfully and before you need to perform steps you've never done before. If you're not satisfied with subsequent steps, close the form without saving the changes you made since your last save, and then open the form and perform the steps again.
- You can always close the form, make a copy of the form in the Navigation Pane, and practice with the copy.
- Adding controls, setting properties, and performing other tasks correctly in Access should work all the time with consistent results, but in rare instances, you might find a feature doesn't work properly. If a feature you've previously used successfully suddenly doesn't work, you should save your work, close the database, make a backup copy of the database, open the database, and then compact and repair the database. Performing a compact and repair resolves most of these types of problems.

To make your form's Detail section match Raj's design (Figure 6-17), you need to move the WalkIn bound control up and to the right. To do so, you must start by selecting the bound control.

Selecting, Moving, and Aligning Controls

Six field value boxes now appear in the form's Detail section, one below the other. Each field value box is a bound control connected to a field in the underlying table, with an attached label to its left. Each field value box and each label is a control in the form; in addition, each pairing of a field value box and its associated label is itself a control. When you select a control, the control becomes outlined in orange, and eight squares, called handles, appear on its four corners and at the midpoints of its four edges. The larger handle in a control's upper-left corner is its move handle, which you use to move the control. You use the other seven handles, called sizing handles, to resize the control. When you work in Design view, controls you place in the form do not become part of a control layout, so you can individually select, move, resize, and otherwise manipulate one control without also changing the other controls. However, at any time you can select a group of controls and place them in a control layout—either a stacked layout or a tabular layout.

REFERENCE

Selecting and Moving Controls

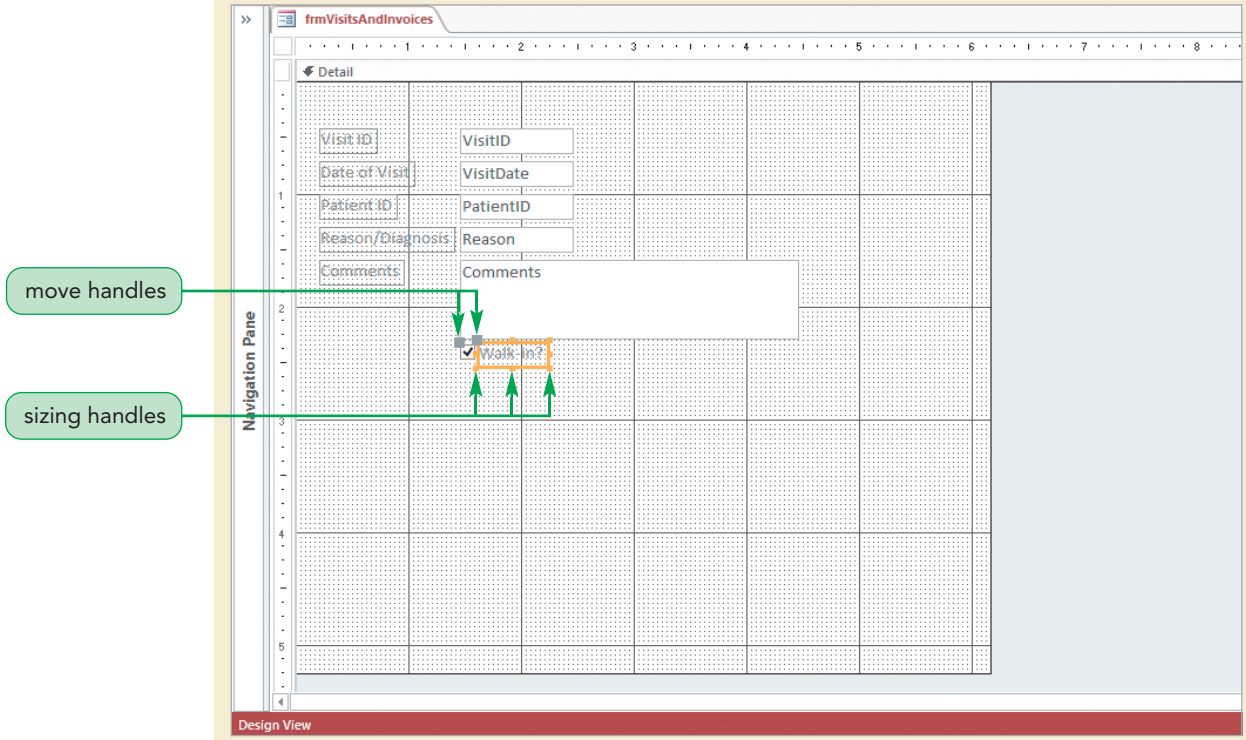
- Click a control to select it. To select several controls at once, press and hold down the Shift key while clicking each control. Handles appear around all selected controls.
- To move a single selected control, drag the control's move handle, which is the handle in the upper-left corner, to its new position.
- To move a group of selected controls, point to any selected control until the pointer changes to a move pointer, and then drag the group of selected controls to its new position.
- To move selected controls in a small increment, press the appropriate arrow key.
- To move selected controls to the next nearest grid dot, hold down the Ctrl key and press the appropriate arrow key.

Based on Raj's design for the custom form, shown in Figure 6-17, you must select the WalkIn bound control and move it up and to the right in the Detail section. The WalkIn bound control consists of a check box and an attached label, displaying the text "Walk-in?" to its right.

To select the WalkIn bound control:

1. If necessary, click the **Walk-in?** label box to select it. Move handles, which are the larger handles, appear on the upper-left corners of the selected label box and its associated bound control. Sizing handles also appear, but only on the label box. See Figure 6-20.

Figure 6-20 Selecting the Walk-in? label control



You can move a field value box and its attached label together. To move them, you place the pointer anywhere on the border of the field value box, but not on a move handle or a sizing handle. When the pointer changes to a shape, you can drag the field value box and its attached label to the new location. As you move a control, an outline of the control moves on the rulers to indicate the current position of the control as you drag it. To move a group of selected controls, point to any selected control until the pointer changes to a shape, and then drag the group of selected controls to its new position. You can move controls with more precision when you use the arrow keys instead of the mouse. To move selected controls in a small increment, press the appropriate arrow key on the keyboard. To move selected controls to the next nearest grid dot, hold down the Ctrl key and press the appropriate arrow key on the keyboard.

You can also move either a field value box or its label individually. If you want to move the field value box but not its label, for example, place the pointer on the field value box's move handle. When the pointer changes to a shape, drag the field value box to the new location. You use the label's move handle in a similar way to move only the label.

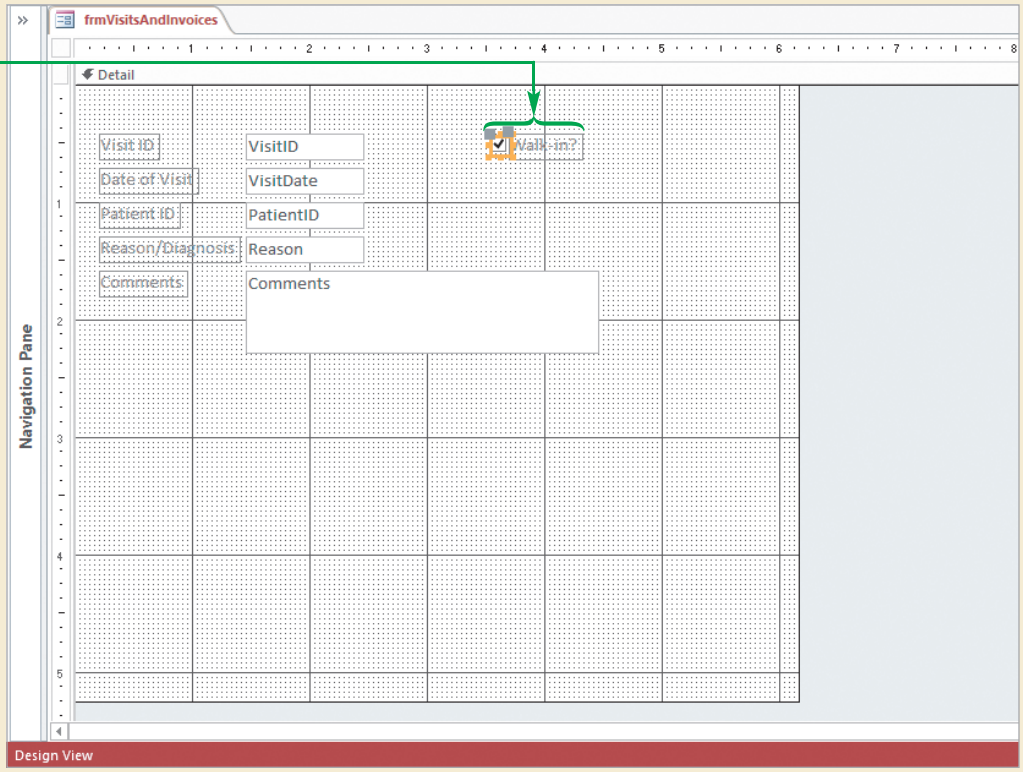
You'll now arrange the controls to match Raj's design.

To move the WalkIn bound control:

Be sure to position the pointer on one of the edges, but not on a move handle or a sizing handle.

1. Position the pointer on one of the edges of the Walk-in? label, but not on a move handle or a sizing handle. When the pointer changes to a shape, drag the control to the upper-right area and then release the mouse button. See Figure 6-21.

Figure 6-21 After moving the Walk-in? label and associated bound control



Trouble? If you need to make major adjustments to the placement of the WalkIn bound control, click the Undo button on the Quick Access Toolbar one or more times until the bound control is back to its starting position, and then repeat Step 1. If you need to make minor adjustments to the placement of the WalkIn bound control, use the arrow keys on the keyboard.

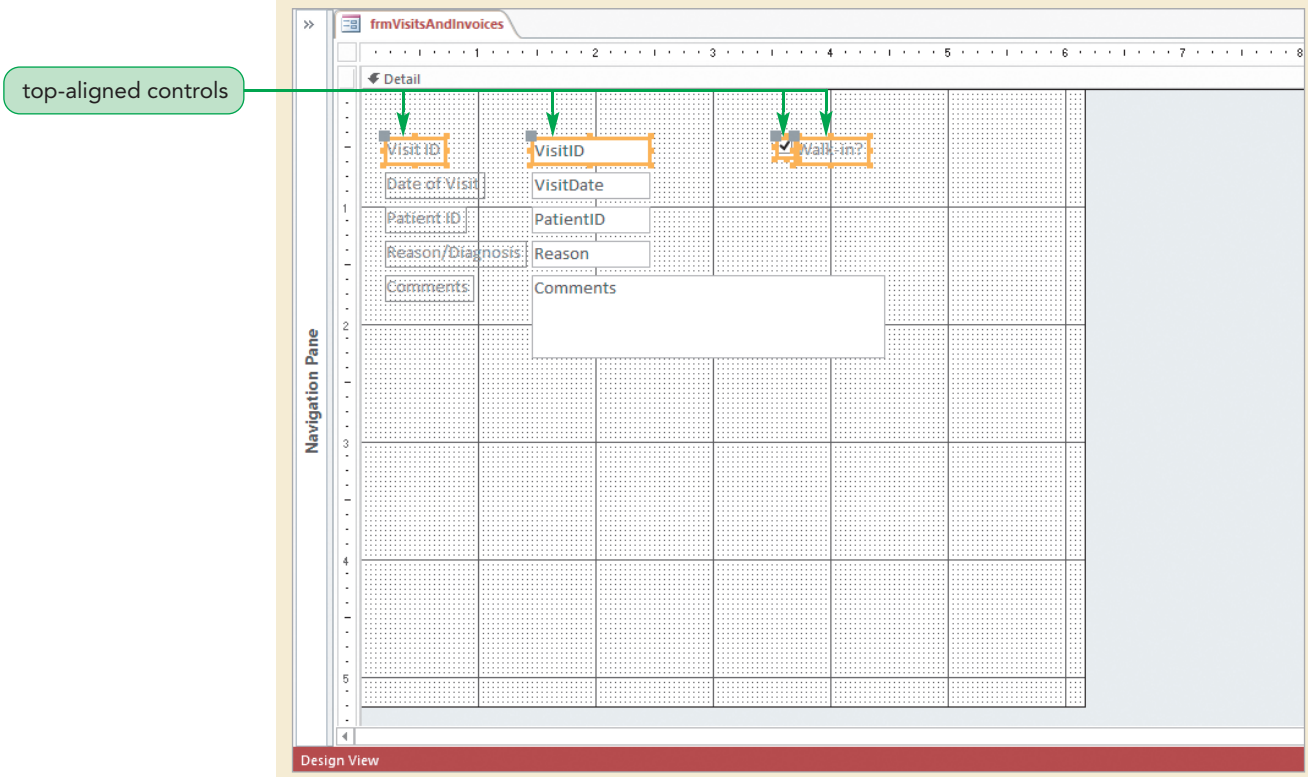
Now you need to align the WalkIn and VisitID bound controls on their top edges. When you select a column of controls, you can align the left edges or the right edges of the controls. When you select a row of controls, you can align the top edges or the bottom edges of the controls. A fifth alignment option, To Grid, aligns selected controls with the dots in the grid. You can find the five alignment options on the ARRANGE tab on the ribbon or on the shortcut menu for the selected controls.

You'll use the shortcut menu to align the two bound controls. Then you'll save the modified form and review your work in Form view.

To align the WalkIn and VisitID bound controls:

1. Make sure the Walk-in? label box is selected, hold down the **Shift** key, click the **WalkIn check box**, click the **VisitID** text box, click the **Visit ID** label, and then release the **Shift** key. This action selects the four controls; each selected control has an orange border.
2. Right-click one of the selected controls, point to **Align** on the shortcut menu, and then click **Top**. The four selected controls are aligned on their top edges. See Figure 6-22.

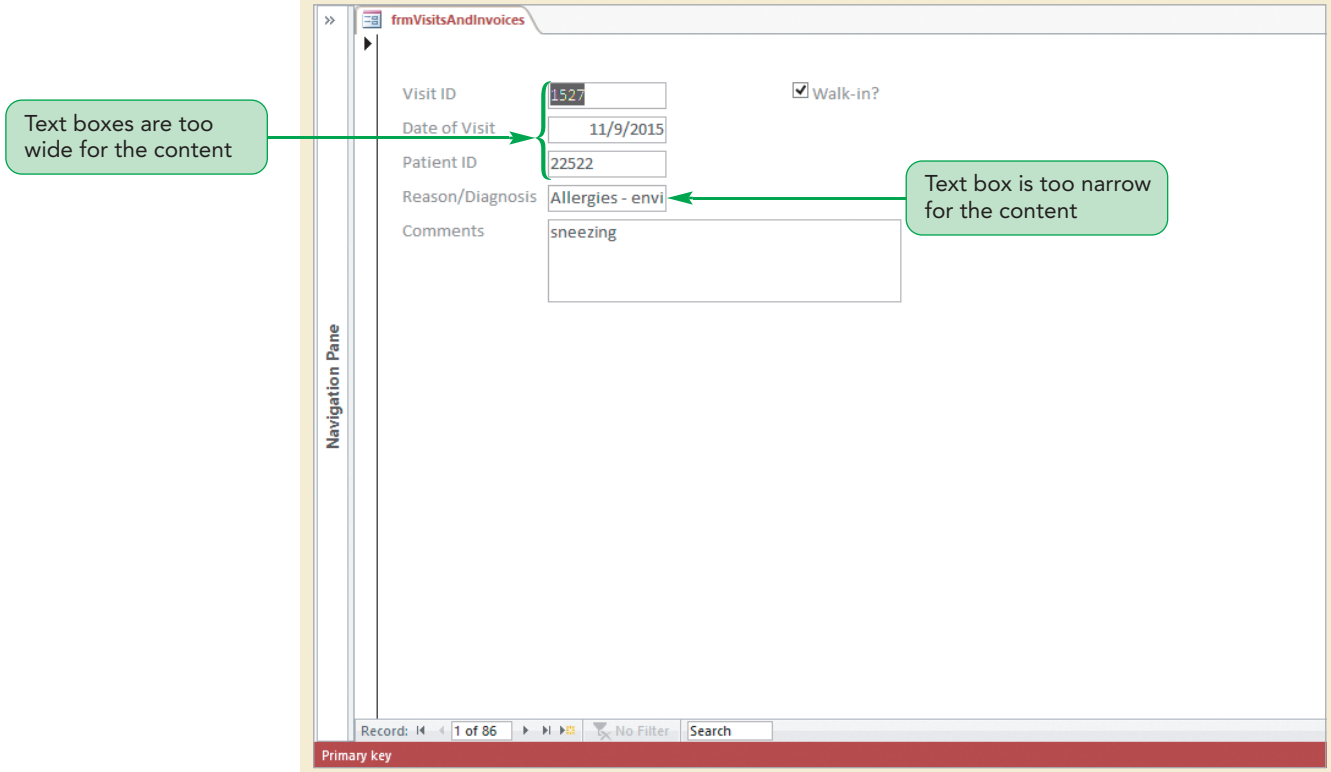
Figure 6-22 After top-aligning four controls in the Detail section



As you create a form, you should periodically save your modifications to the form and review your progress in Form view.

3. Save your form design changes, and then switch to Form view. See Figure 6-23.

Figure 6-23 **Form displayed in Form view**



The value in the Reason text box is not fully displayed, so you need to increase the width of the text box. The widths of the VisitID and VisitDate text boxes are wider than necessary, so you'll reduce their widths. Also, the PatientID bound control consists of a label and a text box, but the plan for the form shows a combo box for the PatientID positioned below the WalkIn bound control. You'll delete the PatientID bound control in preparation for adding it to the form as a combo box.

Resizing and Deleting Controls

A selected control displays seven sizing handles: four at the midpoints on each edge of the control and one at each corner except the upper-left corner. Recall that the upper-left corner displays the move handle. Positioning the pointer over a sizing handle changes the pointer to a two-headed arrow; the directions in which the arrows point indicate in which direction you can resize the selected control. When you drag a sizing handle, you resize the control. As you resize the control, a thin line appears inside the sizing handle to guide you in completing the task accurately, along with outlines that appear on the horizontal and vertical rulers.

REFERENCE

Resizing a Control in Design View

- Click the control to select it and display the sizing handles.
- Place the pointer over the sizing handle you want to use, and then drag the edge of the control until it is the size you want.
- To resize selected controls in small increments, hold down the Shift key and press the appropriate arrow key on the keyboard. This technique applies the resizing to the right edge and the bottom edge of the control.

You'll begin by deleting the PatientID bound control. Then you'll resize the Reason text box, which is too narrow and too short to display Reason field values. Next you'll resize the VisitID and VisitDate text boxes to reduce their widths.

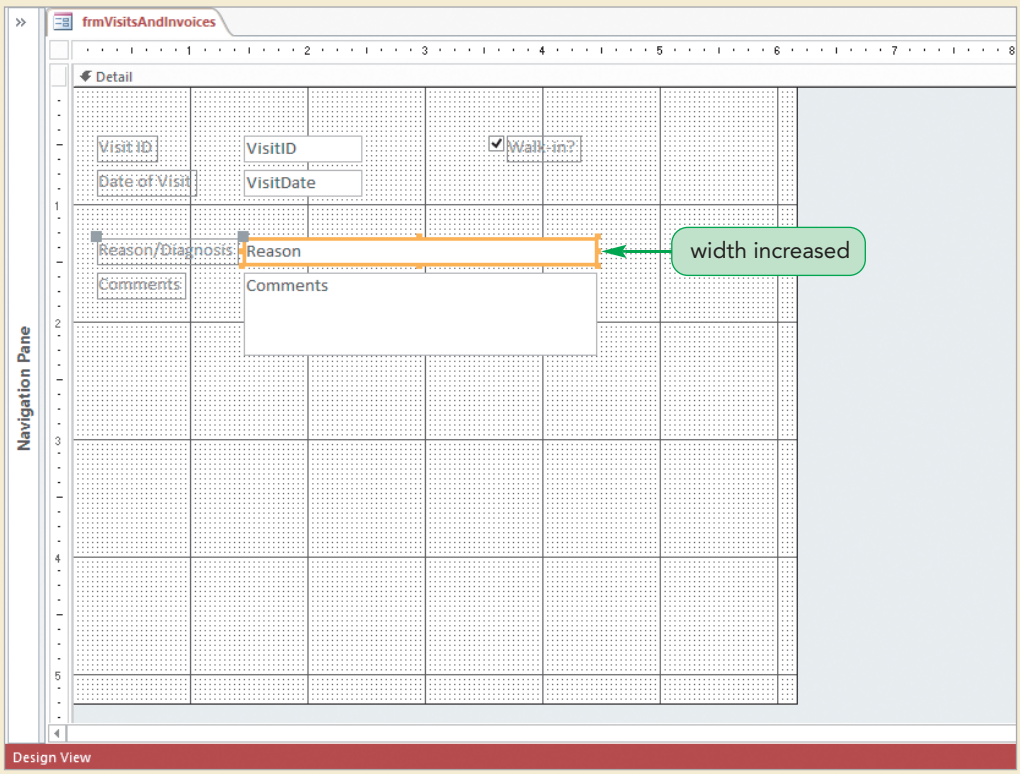
TIP

If you want to delete a label but not its associated field value box, right-click the label, and then click Delete on the shortcut menu.

To delete a bound control and resize the text boxes:

1. Switch to Design view, click an unused portion of the grid to deselect all controls, and then click the **PatientID** text box to select it.
2. Right-click the **PatientID** text box to open the shortcut menu, and then click **Delete**. The label and the text box for the PatientID bound control are deleted.
3. Click the **Reason** text box to select it.
4. Place the pointer on the middle-right handle of the Reason text box. When the pointer changes to a ↔ shape, drag the right border horizontally until it is approximately the same width as the Comments text box. See Figure 6-24.

Figure 6-24 After resizing the Reason text box

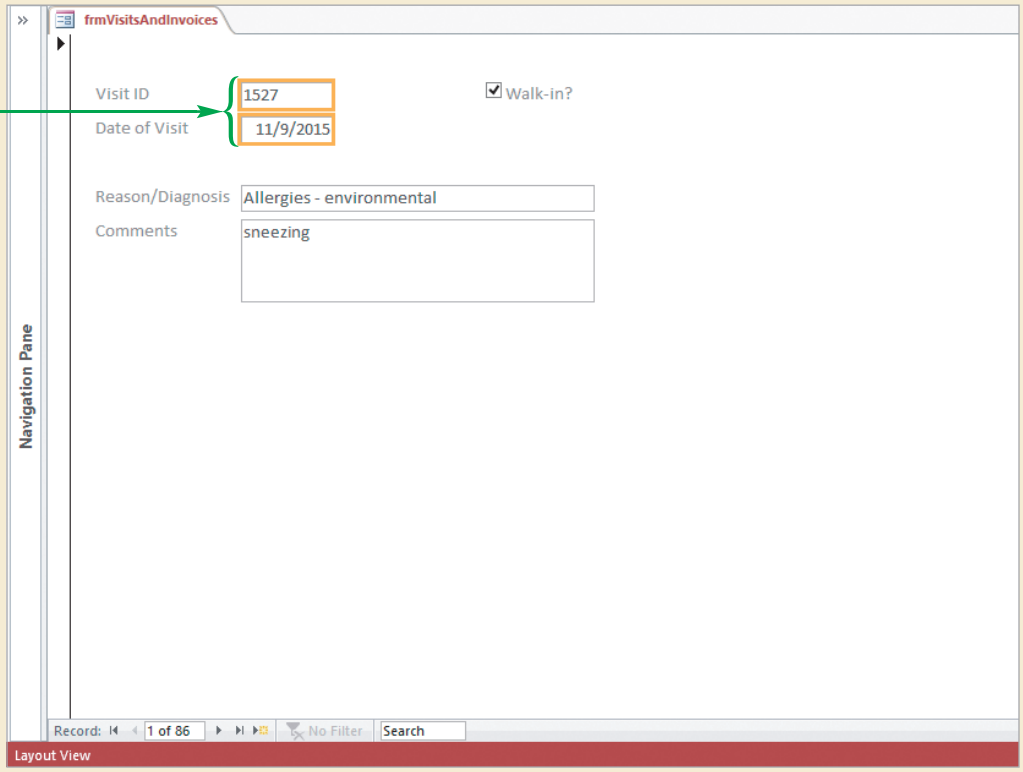


Resizing controls in Design view is a trial-and-error process, in which you resize a control in Design view, switch to Form view to observe the effect of the resizing, switch back to Design view to make further refinements to the control's size, and continue until the control is sized correctly. It's easier to resize controls in Layout view because you can see actual field values while you resize the controls. You'll resize the other two text boxes in Layout view. The sizes of the VisitID and VisitDate text boxes will look fine if you reduce them to have the same widths, so you'll select both text boxes and resize them as a group.

5. Switch to Layout view, and then click the **VisitID** text box (if necessary) to select it. Hold the **Shift** key down and click the **VisitDate** text box (next to the label "Date of Visit") to select it.

6. Position the pointer on the right edge of the **VistDate** text box. When the pointer changes to a ↔ shape, drag the right border horizontally to the left until the text box is slightly wider than the field value it contains, and the date in the VisitID field is also visible. See Figure 6-25.

Figure 6-25 **After resizing field value boxes in Layout view**



Trouble? If you resized the text boxes too far to the left, number signs will be displayed inside the VisitDate text box. Drag the right edge of the text boxes slightly to the right and repeat the process until the date value is visible inside the text box.

TIP

If you select a control by mistake, hold down the Shift key, and then click the selected control to deselect it.

7. Navigate through the first several records to make sure the three text boxes are sized properly and display the full field values. If any text box is too small, select the text box and increase its width the appropriate amount.

8. Save your form design changes, switch to Design view, and then deselect all controls by clicking in an unused portion of the grid.

INSIGHT

Making Form Design Modifications

When you design forms and other objects, you'll find it helpful to switch frequently between Design view and Layout view. Some form modifications are easier to make in Layout view, other form modifications are easier to make in Design view, and still other form modifications can be made only in Design view. You should check your progress frequently in either Layout view or Form view, and you should save your modifications after completing a set of changes successfully.

Recall that you removed the lookup feature from the PatientID field because a combo box provides the same lookup capability in a form. Next, you'll add a combo box for the PatientID field to the custom form.

Adding a Combo Box to a Form

The tblPatient and tblVisit tables are related in a one-to-many relationship. The PatientID field in the tblVisit table is a foreign key to the tblPatient table, and you can use a combo box in the custom form to view and maintain PatientID field values more easily and accurately than using a text box. Recall that a combo box is a control that provides the features of a text box and a list box; you can choose a value from the list or type an entry.

PROSKILLS

Problem Solving: Using Combo Boxes for Foreign Keys

When you design forms, combo boxes are a natural choice for foreign keys because foreign key values must match one of the primary key values in the related primary table. If you do not use a combo box for a foreign key, you force users to type values in the text box. When they make typing mistakes, Access rejects the values and displays frustrating nonmatching error messages. Combo boxes allow users to select only from a list of valid foreign key values, so nonmatching situations are eliminated. At the same time, combo boxes allow users who are skilled at data entry to more rapidly type the values, instead of using the more time-consuming technique of choosing a value from the combo box list. Whenever you use an Access feature such as combo boxes for foreign keys, it takes extra time during development to add the feature, but you save users time and improve their accuracy for the many months or years they use the database.

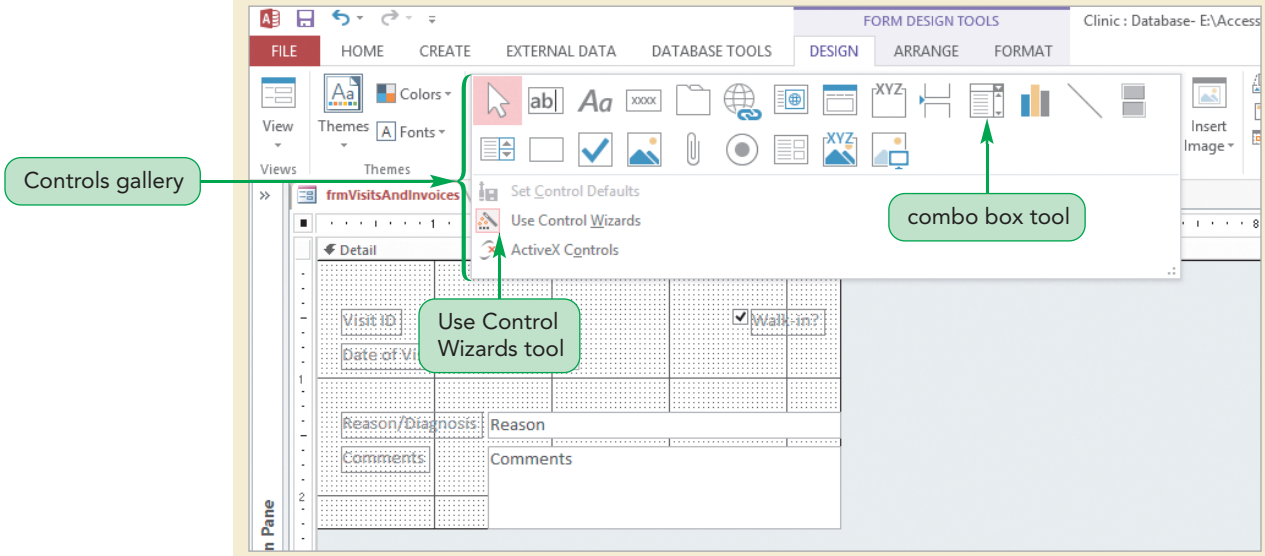
You use the **Combo Box tool** in Design view to add a combo box to a form. If you want help when adding the combo box, you can select one of the Control Wizards. A **Control Wizard** asks a series of questions and then uses your answers to create a control in a form or report. Access offers Control Wizards for the Combo Box, List Box, Option Group, Command Button, Subform/Subreport, and other control tools.

You will use the Combo Box Wizard to add a combo box to the form for the PatientID field.

To add a combo box to the form:

1. Click the DESIGN tab, and then in the Controls group, click the **More** button to open the Controls gallery. See Figure 6-26.

Figure 6-26 **Controls gallery**



The Controls gallery contains tools that allow you to add controls (such as text boxes, lines, charts, and labels) to a form. You drag a control from the Controls gallery and place it in position in the grid.

2. In the gallery, make sure the Use Control Wizards tool is selected (with an orange background) in the Controls gallery. If the tool is not selected, click the **Use Control Wizards** tool to select it, and then click the **More** button to open the Controls gallery again.

3. In the Controls gallery, click the **Combo Box** tool. The Controls gallery closes. After you click the Combo Box tool or most other tools in the Controls gallery, nothing happens until you move the pointer over the form. When you move the pointer over the form, the pointer changes to a shape that is unique for the control with a plus symbol in its upper-left corner. You position the plus symbol in the location where you want to place the upper-left corner of the control.

   You'll place the combo box near the top of the form, below the WalkIn bound control, and then position it more precisely after you've finished the wizard.

4. Position the + portion of the pointer below the WalkIn bound control and at the 4-inch mark on the horizontal ruler, and then click the mouse button. Access places a combo box control in the form and opens the first Combo Box Wizard dialog box.

   You can use an existing table or query as the source for a new combo box or type the values for the combo box. In this case, you'll use the qryPatientsByName query as the basis for the new combo box. This query includes the Patient calculated field, whose value equals the concatenation of the LastName and FirstName field values.

5. Click the **I want the combo box to get the values from another table or query** option button (if necessary), click the **Next** button to open the next Combo Box Wizard dialog box, click the **Queries** option button in the View group, click **Query: qryPatientsByName**, and then click the **Next** button. Access opens the third Combo Box Wizard dialog box. This dialog box lets you select the fields from the query to appear as columns in the combo box. You'll select the first two fields.

6. Double-click **Patient** to move this field to the Selected Fields box, double-click **PatientID**, and then click the **Next** button. This dialog box lets you choose a sort order for the combo box entries. Raj wants the entries to appear in ascending order on the Patient field.
7. Click the **arrow** for the first box, click **Patient**, and then click the **Next** button to open the next Combo Box Wizard dialog box.
8. Resize the columns a bit wider than the widest data because the form font is a bit larger than the wizard font, scrolling down the columns to make sure all values are visible and resizing again if they're not, and then click the **Next** button.

   In this dialog box, you select the foreign key, which is the PatientID field.
9. Click **PatientID** and then click the **Next** button.

   In this dialog box, you specify the field in the tblVisit table where you will store the selected PatientID value from the combo box. You'll store the value in the PatientID field in the tblVisit table.
10. Click the **Store that value in this field** option button, click its **arrow**, click **PatientID**, and then click the **Next** button.

    Trouble? If PatientID doesn't appear in the list, click the Cancel button, press the Delete key to delete the combo box, click the Add Existing Fields button in the Tools group on the DESIGN tab, double-click PatientID in the Field List pane, press the Delete key to delete PatientID, close the Field List pane, and then repeat Steps 1–10.

    In this dialog box, you specify the name for the combo box control. You'll use the field name of PatientID.
11. Type **PatientID** and then click the **Finish** button. The completed PatientID combo box appears in the form.

You need to position and resize the combo box control, but first you'll change the text for the attached label from PatientID to Patient ID to match the format used for other label controls in the form. To change the text for a label control, you set the control's Caption property value.

REFERENCE

Changing a Label's Caption

- Right-click the label to select it and to display the shortcut menu, and then click Properties to display the Property Sheet.
- If necessary, click the All tab to display the All page in the Property Sheet.
- Edit the existing text in the Caption box; or click the Caption box, press the F2 key to select the current value, and then type a new caption.
- On the DESIGN tab, in the Tools group, click the Property Sheet button to close the Property Sheet.

Next, you'll change the text that displays in the combo box label.

TIP

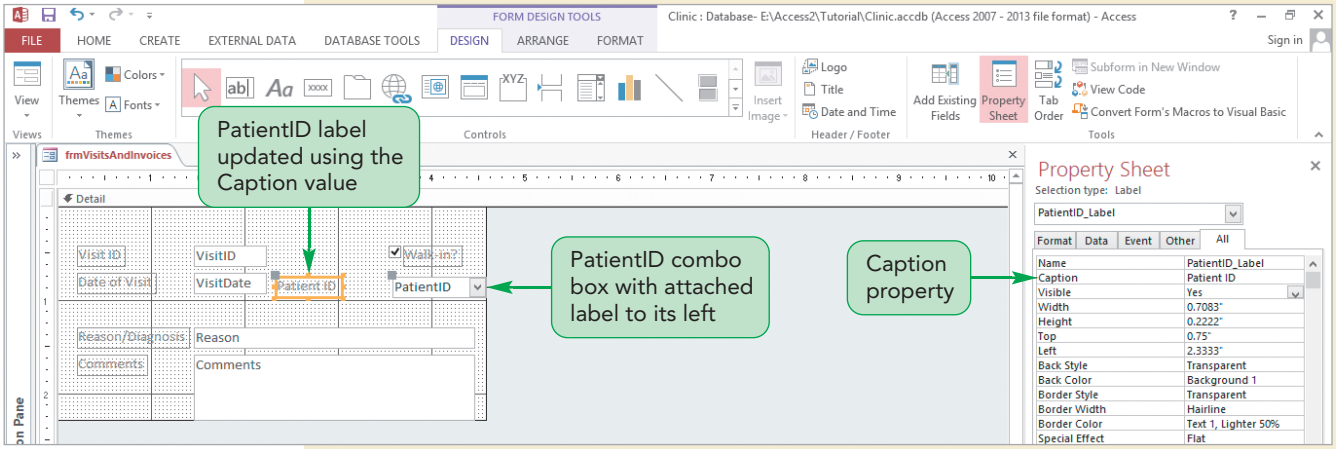
After selecting a control, you can press the F4 key to open and close the Property Sheet for the control.

To set the Caption property value for the PatientID label:

1. Right-click the **PatientID** label, which is the control to the left of the PatientID text box, to select it and to display the shortcut menu, and then click **Properties** on the shortcut menu. The Property Sheet for the PatientID label opens.
2. If necessary, click the **All** tab to display all properties for the selected PatientID label.

   Trouble? If the Selection type entry below the Property Sheet title bar is not "Label," then you selected the wrong control in Step 1. Click the PatientID label to change to the Property Sheet for this control.
3. Click before the "ID" in the Caption box, press the **spacebar**, and then press the **Tab** key to move to the next property in the Property Sheet. The Caption property value should now be Patient ID and the label for the PatientID bound control should now display Patient ID. See Figure 6-27.

Figure 6-27 PatientID combo box and updated label added to the form



Trouble? Some property values in your Property Sheet, such as the Width and Top property values, might differ if your label's position slightly differs from the label position used as the basis for Figure 6-27. These differences cause no problems.

Trouble? You won't see the effects of the new property setting until you select another property, select another control, or close the Property Sheet.

The Selection type entry, which appears below the Property Sheet title bar, displays the control type (Label in this case) for the selected control. Below the Selection type entry in the Property Sheet is the Control box, which you can use to select another control in the form and then change its properties in the Property Sheet. Alternately, you can simply click a control in the form to change its properties in the Property Sheet. The first property in the Property Sheet, the **Name property**, specifies the name of a control, section, or object (PatientID_Label in this case). The Name property value is the same as the value displayed in the Control box, unless the Caption property has been set. For bound controls, the Name property value matches the field name. For unbound controls, Access adds an underscore and a suffix of the control type (for example, Label) to the Name property setting. For unbound controls, you can set the Name property to another, more meaningful value at any time.

4. Close the Property Sheet, and then save your design changes.

Now that you've added the combo box to the form, you can position the combo box and its attached label and resize the combo box. You'll need to view the form in Form view to determine any fine tuning necessary for the width of the combo box.

To modify the combo box in Design and Layout views:

1. Click the **PatientID** combo box, hold down the **Shift** key, click the **Patient ID** label, and then release the **Shift** key to select both controls.

   First, you'll move the selected controls above the VisitID controls. Then you'll align the PatientID, VisitID, VisitDate, Reason, and Comments labels on their left edges, align the PatientID combo box with the VisitID, VisitDate, Reason, and Comments text box controls on their left edges, and then align the WalkIn label and check box with the right edges of the Reason and Comments text boxes.

2. Drag the selected controls to a position above the VisitID controls. Do not try to align them.

3. Click in an unused area of the grid to deselect the selected controls, press and hold the **Shift** key while you click the **Patient ID** label, the **Visit ID** label, **Date of Visit** label, **Reason/Diagnosis** label, and the **Comments** label, and then release the **Shift** key.

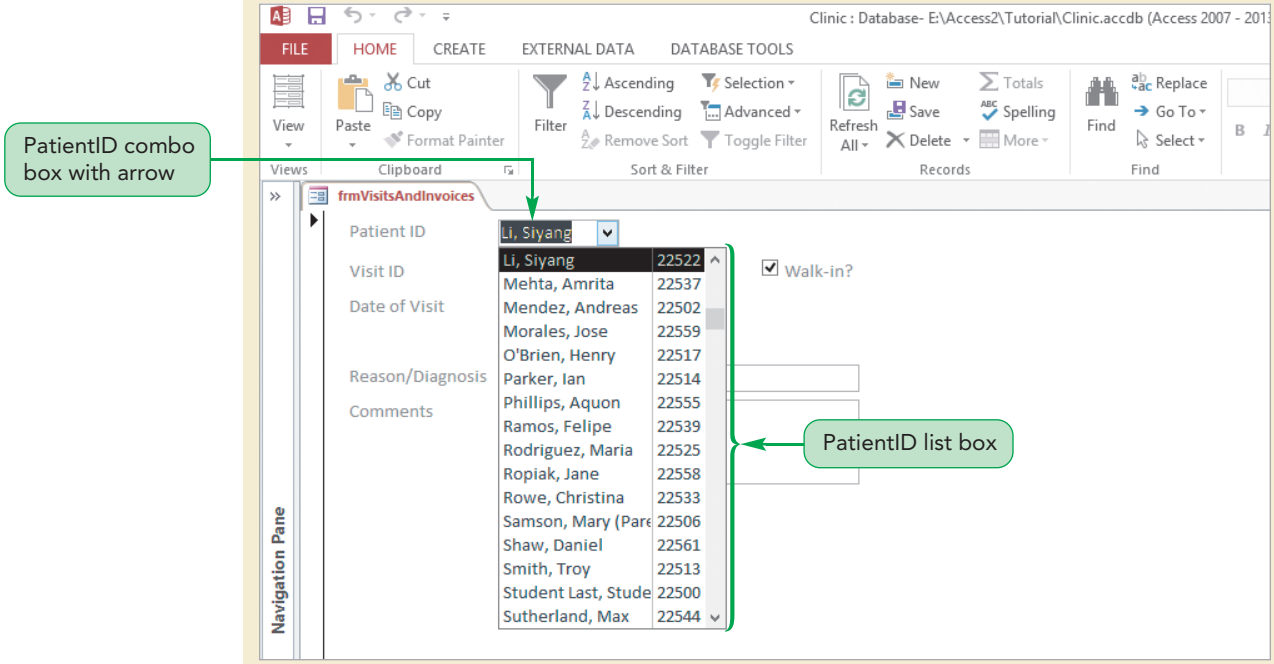
4. Click the **ARRANGE** tab on the Ribbon, in the Sizing & Ordering group click the **Align** button, and then click **Left**. The selected controls are aligned on their left edges.

5. Repeat Steps 3 and 4 to align the **PatientID** combo box, **VisitID** text box, **VisitDate** text box, **Reason** text box, and the **Comments** text box on their left edges.

6. Select the **Walk-in?** label, **Walkin?** check box, **Reason** text box, and **Comments** text box, and in the Sizing & Ordering group on the ARRANGE tab, click the **Align** button, and then click **Right**. The selected controls are aligned on their right edges.

7. Switch to Form view, and then click the **PatientID** arrow to open the control's list box. Note that the column is not wide enough to show the full data values. See Figure 6-28.

Figure 6-28 **PatientID combo box in Form view**

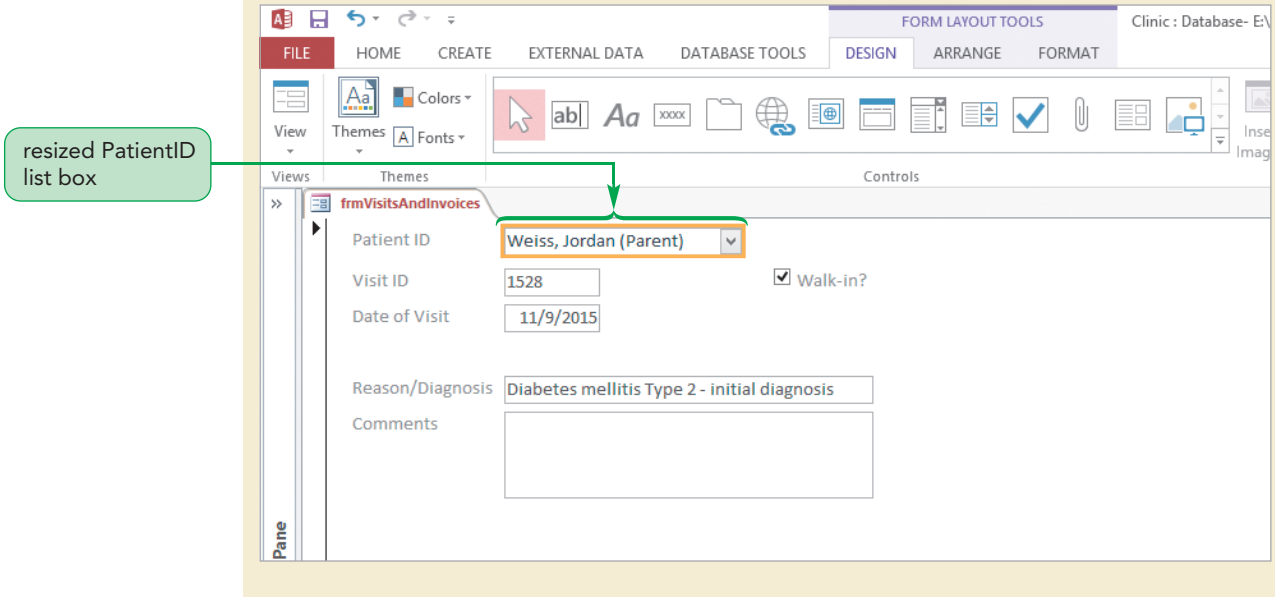


You need to widen the PatientID combo box, so that the widest customer value in the list is displayed in the combo box. You can widen the combo box in Layout view or in Design view. Because Form view and Layout view display actual data from the table rather than placeholder text in each bound control, these views let you immediately see the effects of your layout changes. You'll use Layout view instead of Design view to make this change because you can determine the proper width more accurately in Layout view.

8. Switch to Layout view, and then navigate to record 2. Weiss, Jordan (Parent), which is the patient value for this record, is one of the widest values that is displayed in the combo box. You want to widen the combo box so that the value in record 2 is completely visible, with a little bit more room.

9. Make sure that only the combo box is selected, and then pointing to the right edge, widen the combo box until the entire patient value is visible. See Figure 6-29.

Figure 6-29 **After resizing the PatientID combo box in Layout view**



Now you'll add the title to the top of the form.

Using Form Headers and Form Footers

The **Form Header** and **Form Footer sections** let you add titles, instructions, command buttons, and other controls to the top and bottom of your form, respectively. Controls placed in the Form Header or Form Footer sections remain on the screen whenever the form is displayed in Form view or Layout view; they do not change when the contents of the Detail section change as you navigate from one record to another record.

To add either a form header or footer to your form, you must first add both the Form Header and Form Footer sections as a pair to the form. If your form needs one of these sections but not the other, you can remove a section by setting its height to zero, which is the same method you would use to remove any form section. You can also prevent a section from appearing in Form view or in Print Preview by setting its Visible property to No. The **Visible property** determines if Access displays a control or section. You set the Visible property to Yes to display the control or section, and set the Visible property to No to hide it.

If you've set the Form Footer section's height to zero or set its Visible property to No and a future form design change makes adding controls to the Form Footer section necessary, you can restore the section by using the pointer to drag its bottom edge back down or by setting its Visible property to Yes.

You can add the Form Header and Form Footer sections as a pair to a form either directly or indirectly. The direct way to add these sections is to right-click the Detail section selector, and then click Form Header/Footer. This direct method is available only in Design view. The indirect way to add the Form Header and Form Footer sections in Layout view or Design view is to use one of three buttons on the DESIGN tab in the Header/Footer group: the Logo button, the Title button, or the Date and Time button. Clicking any of these three buttons causes Access to add the Form Header and Form Footer sections to the form and to place an appropriate control in the Form Header section. If you use the indirect method in Layout view, Access sets the Form Footer section's height to zero. In Design view, the indirect method creates a Form Footer section with the Height property set to one-quarter inch.

REFERENCE

Adding and Removing Form Header and Form Footer Sections

- In Design view, right-click the Detail section selector, and then click Form Header/Footer on the shortcut menu; or in Layout view or Design view, click a button on the DESIGN tab in the Header/Footer group to add a logo, title, or date and time to the form.
- To remove a Form Header or Form Footer section, drag its bottom edge up until the section area disappears or set the section's Visible property to No.

Raj's design includes a title at the top of the form. Because the title will not change as you navigate through the form records, you will add the title to the Form Header section in the form.

Adding a Title to a Form

You'll add the title to Raj's form in Layout view. When you add a title to a form in Layout view, Access adds the Form Header section to the form and places the title in the Form Header section. At the same time, Access adds the Page Footer section to the form and sets its height to zero.

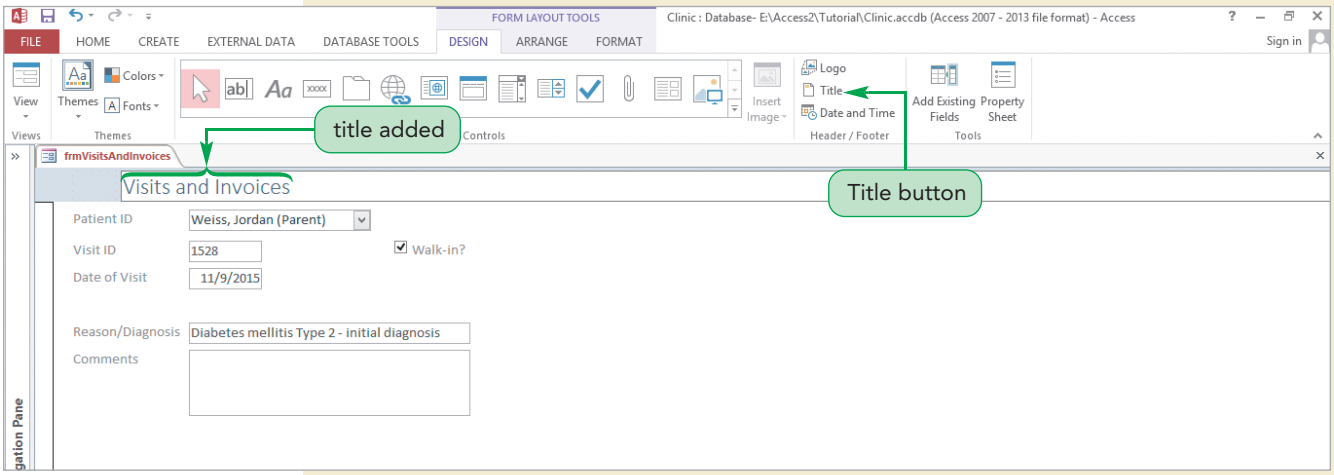
To add a title to the form:

1. On the DESIGN tab, in the Header/Footer group, click the **Title** button. Access adds the title to the form, displaying it in the upper-left of the form and using the form name as the title.

   You need to change the title. Because the title is already selected, you can type over or edit the selected title.

2. Type **Visits and Invoices** to replace the default title text. See Figure 6-30.

Figure 6-30 Title placed in the Form Header section



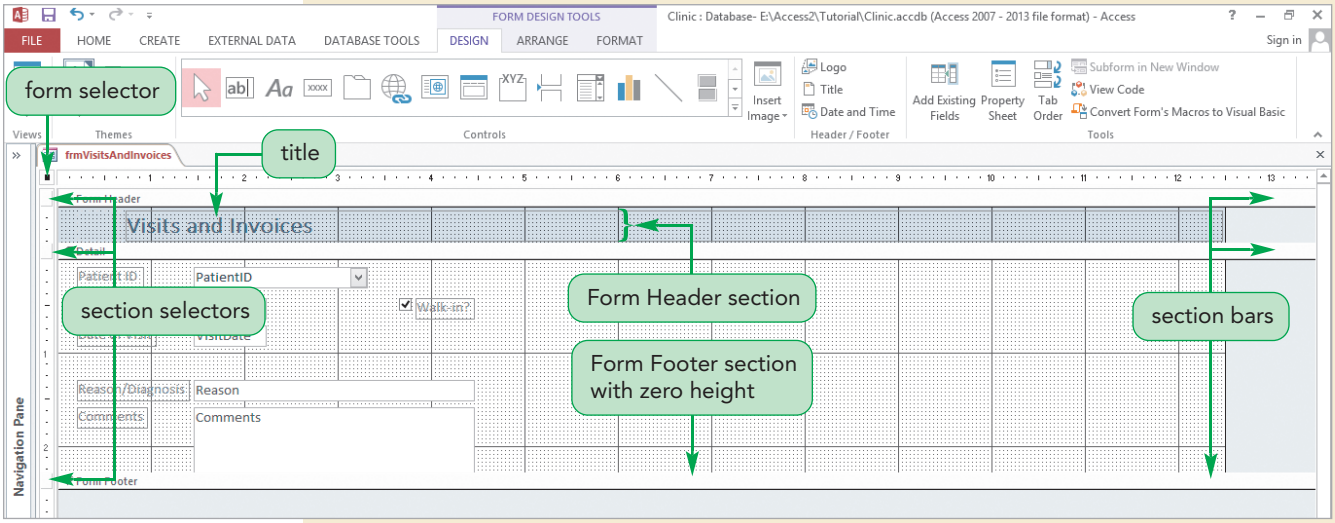
Raj wants the title to be prominent in the form. The title is already a larger font size than the font used for the form's labels and field value boxes, so you'll change the title's font weight to bold to increase its prominence.

3. Select the title control, click the **FORMAT** tab, and then in the Font group, click the **Bold** button B. The title is displayed in 18-point, bold text.

   It is not obvious in Layout view that the title is displayed in the Form Header section, so you'll view the form design in Design view.

4. Switch to Design view, click outside the grid to deselect all controls, and then save your design changes. The title is displayed in the Form Header section. See Figure 6-31.

Figure 6-31 **Form Header and Form Footer sections in Design view**



The form now contains a Form Header section that displays the title, a Detail section that displays the bound controls and labels, and a Form Footer section that is set to a height of zero. Each section consists of a **section selector** and a section bar, either of which you can click to select and set properties for the entire section, and a grid or background, which is where you place controls that you want to display in the form. The **form selector** is the selector at the intersection of the horizontal and vertical rulers; you click the form selector when you want to select the entire form and set its properties. The vertical ruler is segmented into sections for the Form Header section, the Detail section, and the Form Footer section.

A form's total height includes the heights of the Form Header, Detail, and Form Footer sections. If you set a form's total height to more than the screen size, users will need to use scroll bars to view the content of your form, which is less productive for users and isn't good form design.

So far, you've added controls to the form and modified the controls by selecting, moving, aligning, resizing, and deleting them. You've added and modified a combo box and added a title in the Form Header section. In the next session, you will continue your work with the custom form by adding a combo box to find records, adding a subform, adding calculated controls, changing form and section properties, and changing control properties.

REVIEW

Session 6.2 Quick Check

1. What is a bound form, and when do you use bound forms?
2. What is the difference between a bound control and an unbound control?
3. The _____ consists of the dotted and solid lines that appear in the Header, Detail, and Footer sections to help you position controls precisely in a form.
4. The handle in a selected object's upper-left corner is the _____ handle.
5. How do you move a selected field value box and its label at the same time?
6. How do you resize a control?
7. A(n) _____ control provides the features of a text box and a list box.
8. How do you change a label's caption?
9. What is the Form Header section?

Session 6.3 Visual Overview:

The label has a shadow effect and uses a bold, red font.

You use the **Line tool** in Design view to add a line to a form or report.

These text boxes have a sunken effect.

The labels are formatted with bold, blue text and the same background color as the Detail section.

You use the **Rectangle tool** to add a rectangle to a layout. This rectangle groups these controls and their labels visually.

This calculated control uses the **Sum function**, which calculates the total of an expression; its general format as a control in a form or report is =Sum(*expression*).

This calculated control uses the **Count function**, which determines the number of occurrences of an expression; its general format as a control in a form or report is =Count(*expression*).

Clinic : Database- E:\Access2\Tutorial\Clinic.accdb (Access 2007 - 2013

FILE HOME CREATE EXTERNAL DATA DATABASE TOOLS

frmVisitsAndInvoices

Visits and Invoices

Select Visit 1557

Patient ID Swenson, Lucia

Visit ID 1557

Walk-in?

Date of Visit 12/10/2015

Reason/Diagnosis Annual wellness visit

Comments some insomnia, some stress related to her job. She is asking for a referral for a counsellor

Invoice Num	Invoice Date	Invoice Amt	Invoice Item	Invoice Paid
35860	12/11/2015	$100.00	REP001	☑
35861	12/11/2015	$85.00	PRM712	☑
35862	12/11/2015	$45.00	REP298	☐
35863	12/14/2015	$32.00	DG111	☐

Record: 1 of 4 No Filter Search

Number of Invoices 4

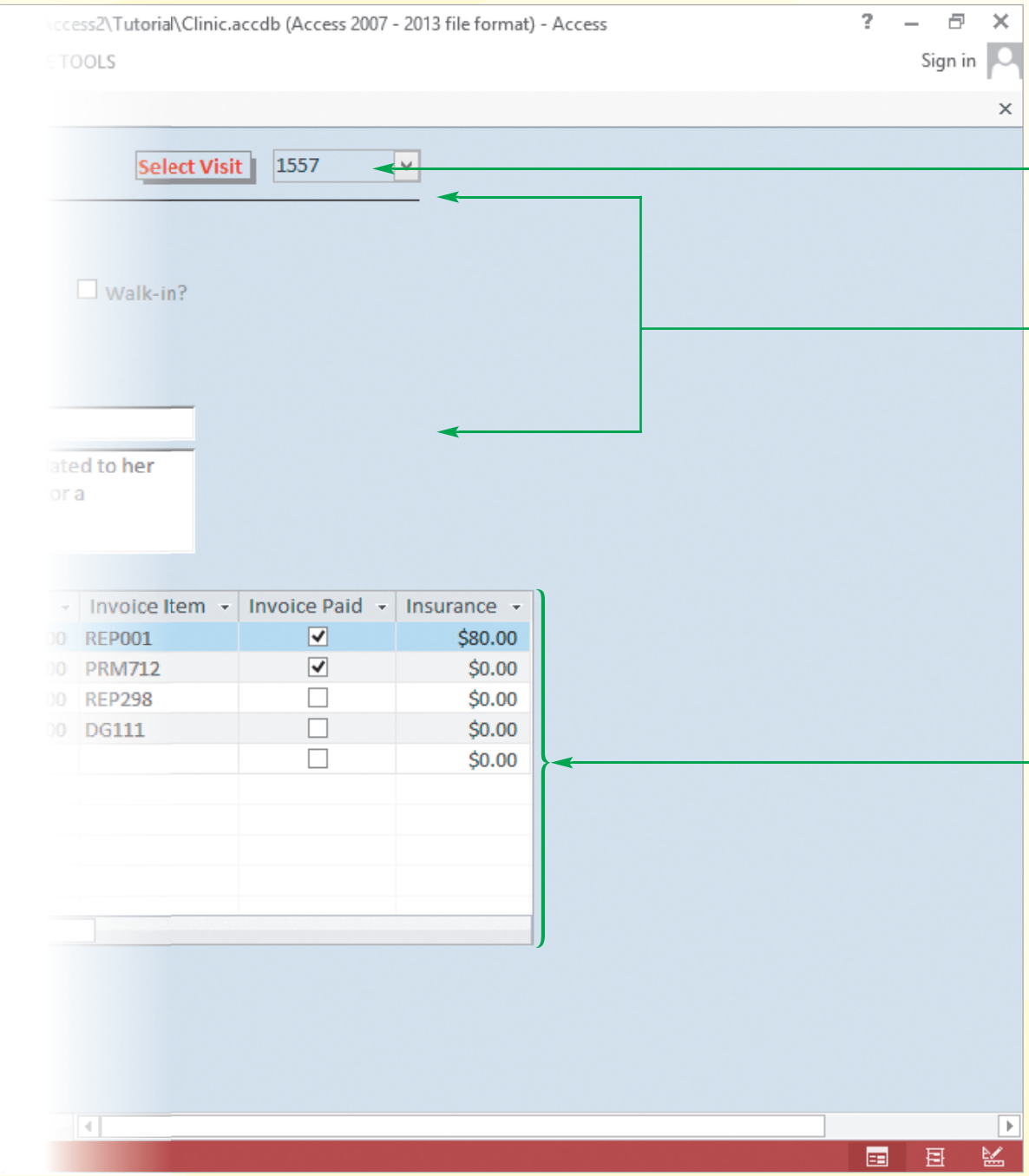
Invoice Amount Total $262.00

Record: 16 of 86 No Filter Search

Navigation Pane

Form View

Custom Form in Form View



The combo box has the same background color as the Header section.

The background colors for the Header and Detail sections are set to the same value.

The **Subform/Subreport tool** in Design view is used to add a subform to a form.

Adding a Combo Box to Find Records

Most combo boxes are used to display and update data. You can also use combo boxes to find records. To continue creating the form that Raj sketched, you will add a combo box to the Form Header section to find a specific record in the tblVisit table to display in the form.

REFERENCE

Adding a Combo Box to Find Records

- Open the Property Sheet for the form in Design view, make sure the record source is a table or query, and then close the Property Sheet.
- On the DESIGN tab, in the Controls group, click the More button, click the Combo Box tool, and then click the position in the form where you want to place the control.
- Click the third option button ("Find a record on my form based on the value I selected in my combo box") in the first Combo Box Wizard dialog box, and then complete the remaining Combo Box Wizard dialog boxes.

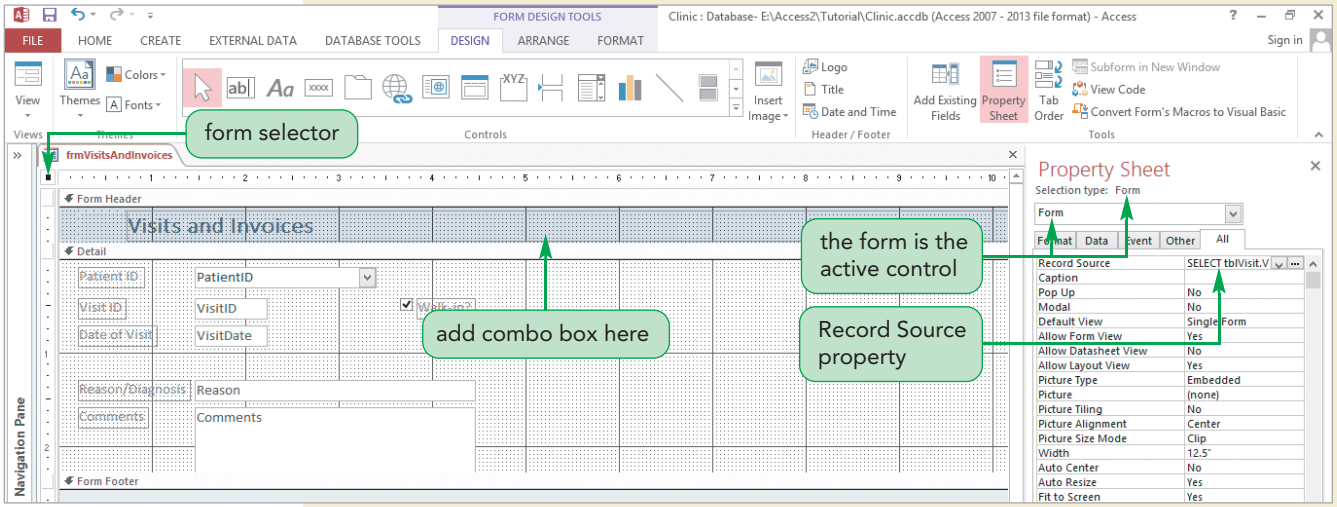
You can use the Combo Box Wizard to add a combo box to find records in a form. However, the Combo Box Wizard provides this find option only when the form's record source is a table or query. You'll view the Property Sheet for the form to view the Record Source property, and you'll change the property setting, if necessary.

To add a combo box to find records to the form:

1. If you took a break after the previous session, make sure that the Clinic database is open, the frmVisitsAndInvoices form is open in Design view, and the Navigation Pane is closed.
2. Click the **form selector** (located to the left of the horizontal ruler) to select the form. The form selector changes to , indicating that the form is selected.

   Trouble? If the Form Header section head instead turns black, you might have clicked the header selector button. Click the form selector button, which is just above the header selector button.
3. Click the DESIGN tab, and then in the Tools group, click the Property Sheet button. The Property Sheet displays the properties for the form. See Figure 6-32.

Figure 6-32 **Property sheet for the form**



The Record Source property is set to an SQL SELECT statement, which is code that references a table. You need to change the Record Source property to a table or query, or the Combo Box Wizard will not present you with the option to find records in a form. You'll change the Record Source property to the tblVisit table because this table is the record source for all the bound controls you added to the Detail section.

4. Click the **All** tab if necessary, and click the **Record Source** box. Click the arrow, select **tblVisit**, and then close the Property Sheet.

   You'll now use the Combo Box Wizard to add a combo box to the form's Form Header section, which will enable a user to find a record in the tblVisit table to display in the form.

5. On the DESIGN tab, in the Controls group, click the **More** button to open the Controls gallery, make sure the Use Control Wizards tool is selected in the Controls gallery, click the **Combo Box** tool , position the + portion of the pointer at the top of the Form Header section and at the 5-inch mark on the horizontal ruler (see Figure 6-32), and then click the mouse button. Access places a combo box control in the form and opens the first Combo Box Wizard dialog box.

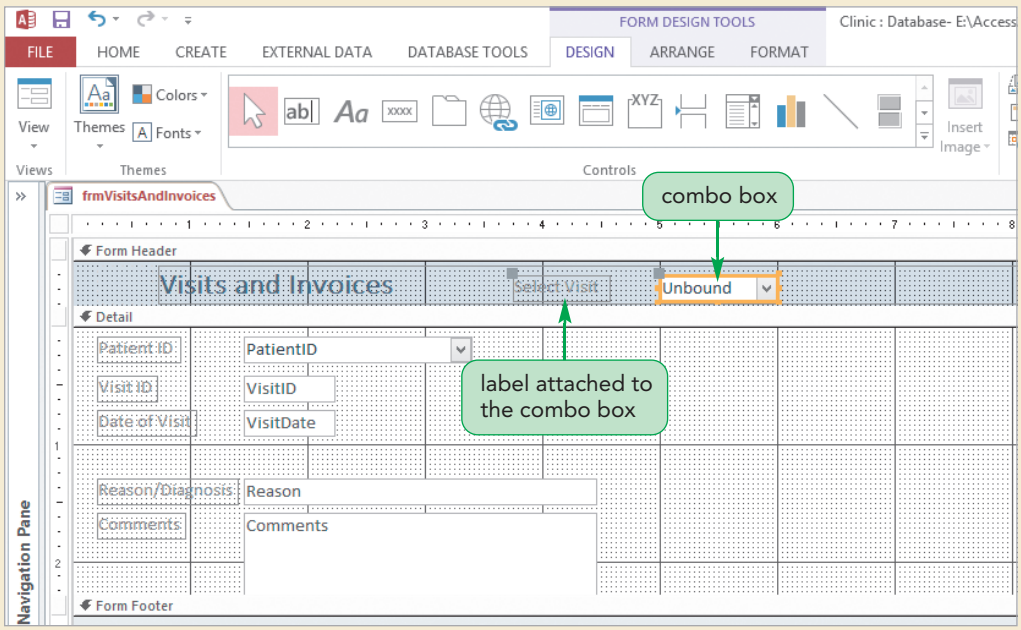
   Trouble? If the Combo Box Wizard dialog box does not open, delete the new controls and try again, ensuring the + pointer is very near the top of the Form Header grid.

   The dialog box now displays a third option to "Find a record on my form based on the value I selected in my combo box," which you'll use for this combo box. You would choose the first option, which you used for the PatientID combo box, if you wanted to select a value from a list of foreign key values from an existing table or query. You would choose the second option if you wanted users to select a value from a short fixed list of values that don't change. For example, if Chatham Community Health Services wanted to include a field in the tblPatient table to identify the state in which the patient resides, you could use a combo box with this second option to display a list of states.

6. Click the **Find a record on my form based on the value I selected in my combo box** option button, and then click the **Next** button to open the next dialog box. This dialog box lets you select the fields from the tblVisit table to appear as columns in the combo box. You'll select the first field.
7. Double-click **VisitID** to move this field to the Selected Fields box, and then click the **Next** button.
8. Resize the column to its best fit, and then click the **Next** button.

   In this dialog box, you specify the name for the combo box's label. You'll use Select Visit as the label.
9. Type **Select Visit**, and then click the **Finish** button. The completed unbound combo box is displayed in the form. See Figure 6-33.

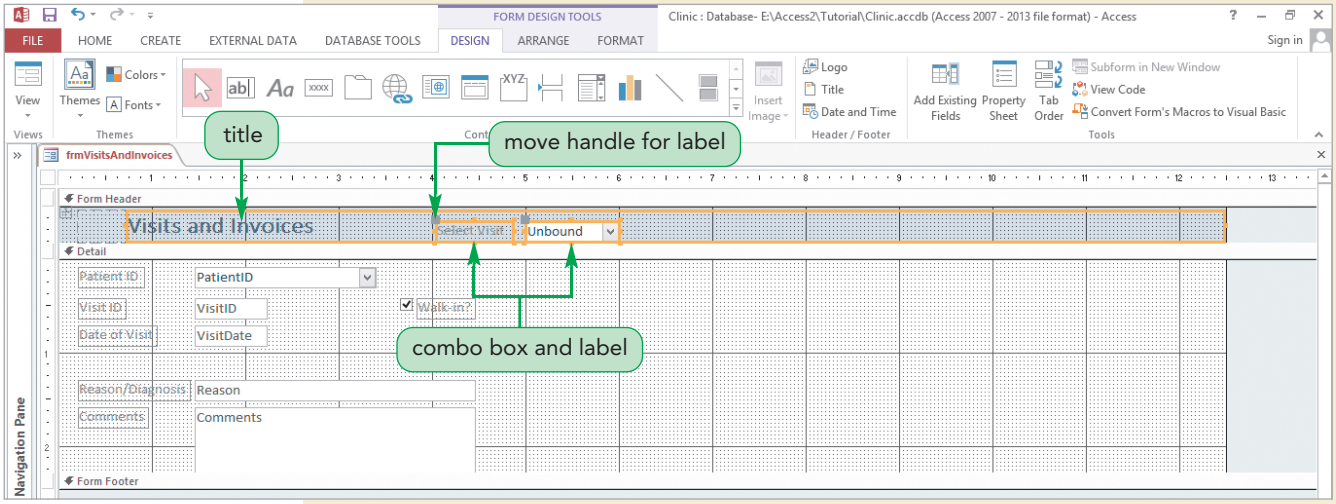
Figure 6-33 **Unbound combo box added to the form**



You'll move the attached label closer to the combo box, and then you'll align the bottoms of the combo box and its attached label with the bottom of the title in the Form Header section.

10. Click the **Select Visit** label, point to the label's move handle (upper left corner), and then drag the label to the right until its right edge is two grid dots to the left of the combo box.
11. Select the combo box in the Form Header section, the **Select Visit** label, and the title, right-click one of the selected controls, point to **Align**, and then click **Bottom**. The three selected controls are aligned on their bottom edges. See Figure 6-34.

Figure 6-34 After aligning the combo box control and the title

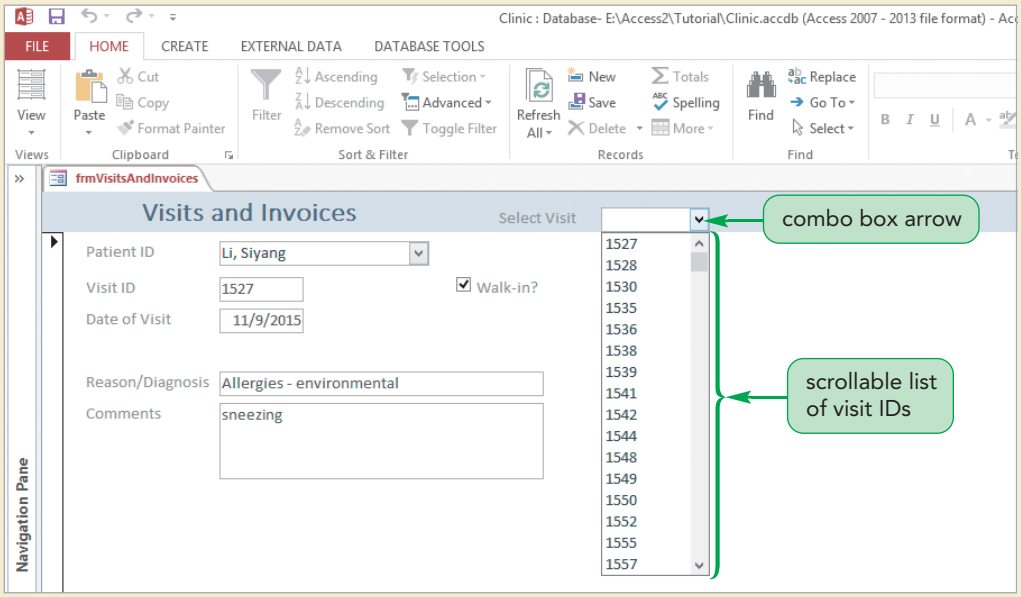


You'll save your form changes and view the new combo box in Form view.

To find contract records using the combo box:

1. Save the form design changes, and then switch to Form view.
2. Click the **Select Visit** combo box arrow to open the list box. See Figure 6-35.

Figure 6-35 Displaying the combo box's list of visit IDs



3. Scroll down the list, and then click **1557**. The current record changes from record 1 to record 16, which is the record for visit ID 1557.

Trouble? If you see the data for record 1, the navigation combo box is not working correctly. Delete the combo box, check to ensure that you have set the Record Source for the form object correctly, and repeat the previous set of steps to recreate the navigation combo box.

The form design currently is very plain, with no color, special effects, or visual contrast among the controls. Before making the form more attractive and useful, though, you'll add the remaining controls: a subform and two calculated controls.

Adding a Subform to a Form

Raj's plan for the form includes a subform that displays the related invoices for the displayed visit. The form you've been creating is the main form for records from the primary tblVisit table (the "one" side of the one-to-many relationship), and the subform will display records from the related tblBilling table (the "many" side of the one-to-many relationship). You use the Subform/Subreport tool in Design view to add a subform to a form. You can add the subform on your own, or you can get help adding the subform by using the SubForm Wizard.

You will use the SubForm Wizard to add the subform for the tblBilling table records to the bottom of the form. First, you'll increase the height of the Detail section to make room for the subform.

TIP

Drag slightly beyond the desired ending position to expose the vertical ruler measurement, and then decrease the height back to the correct position.

To add the subform to the form:

1. Switch to Design view.
2. Place the pointer on the bottom edge of the Detail section. When the pointer changes to a ↕ shape, drag the section's edge down until it is at the 5-inch mark on the vertical ruler.
3. On the DESIGN tab, in the Controls group, click the **More** button to open the Controls gallery, make sure the Use Control Wizards tool is selected, and then click the **Subform/Subreport** tool.
4. Position the + portion of the pointer in the Detail section at the 2.5-inch mark on the vertical ruler and at the 1-inch mark on the horizontal ruler, and then click the mouse button. Access places a subform control in the form's Detail section and opens the first SubForm Wizard dialog box.

You can use a table, a query, or an existing form as the record source for a subform. In this case, you'll use the related tblInvoice table as the record source for the new subform.

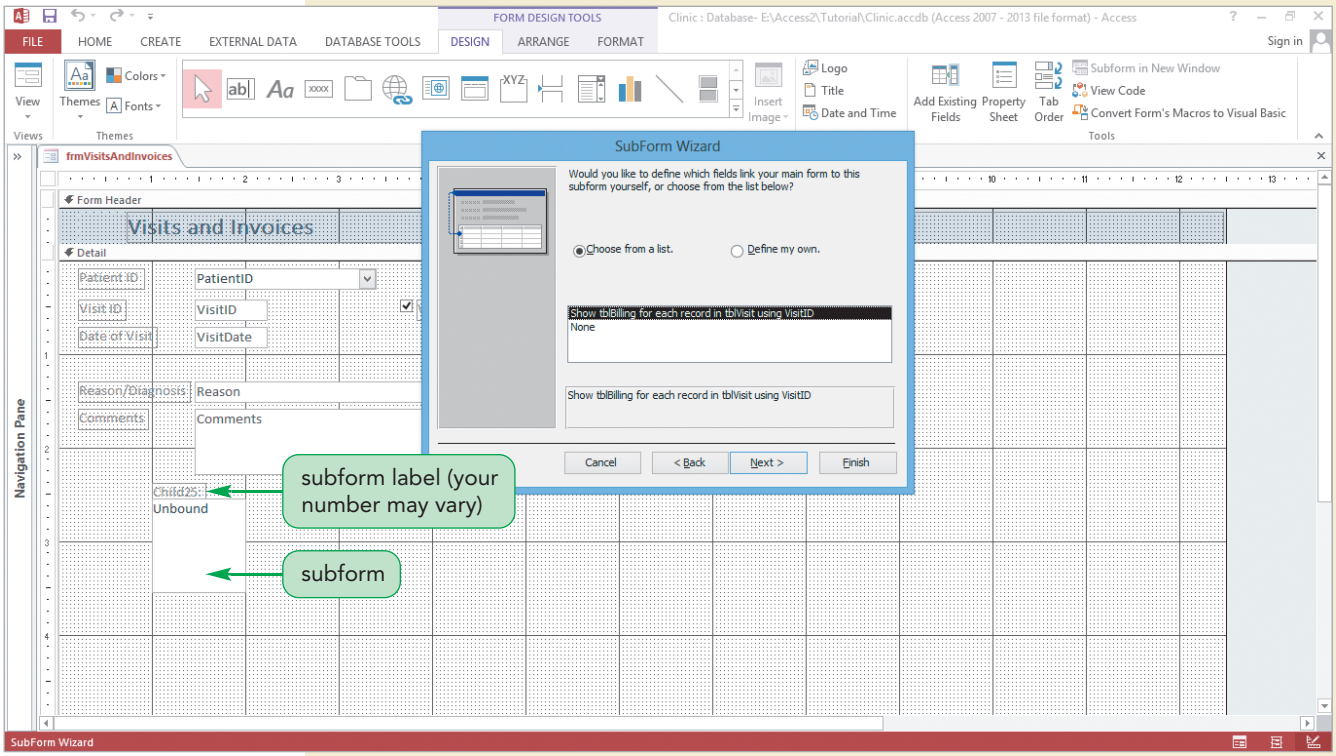
To use the SubForm Wizard to configure the subform:

1. Make sure the Use existing Tables and Queries option button is selected, and then click the **Next** button. Access opens the next SubForm Wizard dialog box, which lets you select a table or query as the record source for the subform and pick which fields to use from the selected table or query.
2. Click the **Tables/Queries arrow** to display the list of tables and queries in the Clinic database, scroll to the top of the list, and then click **Table: tblBilling**. The Available Fields box shows the fields in the tblBilling table.

Raj's form design includes all fields from the tblBilling table in the subform, except for the VisitID field, which you already placed in the Detail section of the form from the tblVisit table.

3. Click the >> button to move all available fields to the Selected Fields box, click **VisitID** in the Selected Fields box, click the < button, and then click the **Next** button to open the next SubForm Wizard dialog box. See Figure 6-36.

Figure 6-36 **Selecting the linking field**



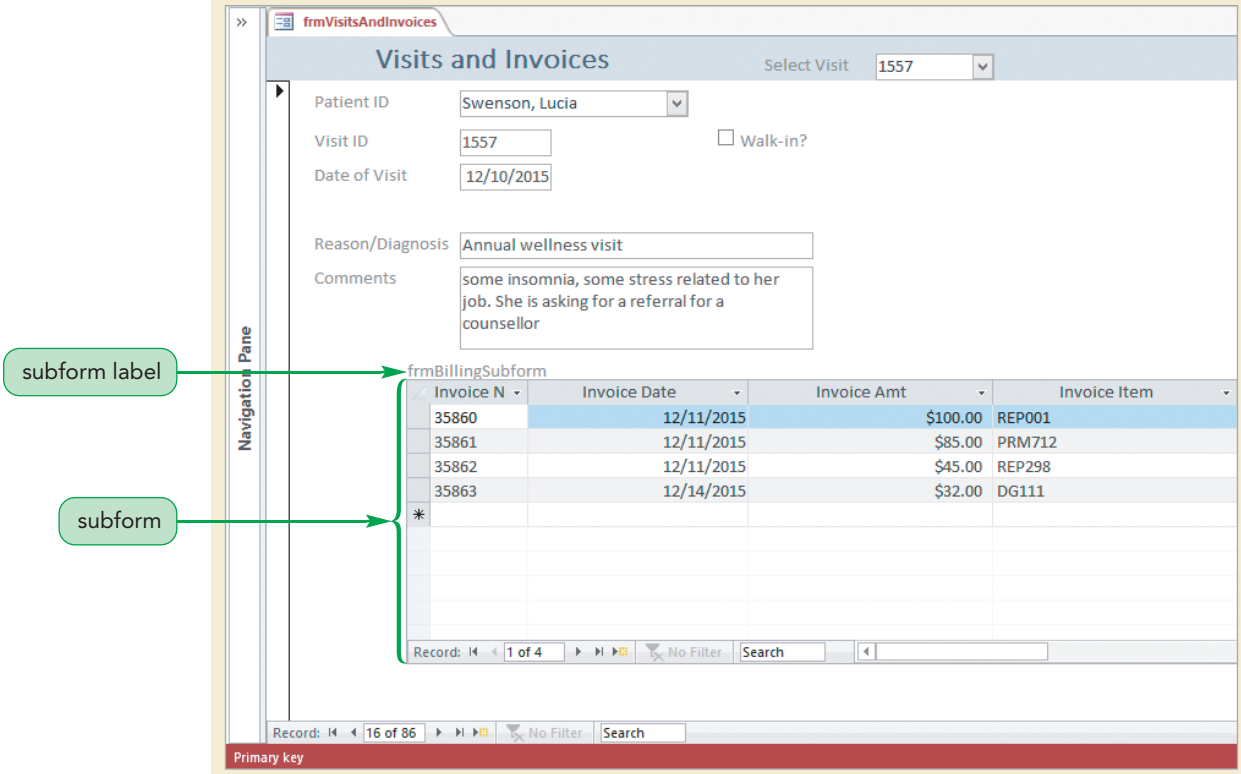
In this dialog box, you select the link between the primary tblVisit table and the related tblBilling table. The common field in the two tables, VisitID, links the tables. Access uses the VisitID field to display a record in the main form, which displays data from the primary tblVisit table, and to select and display the related records for that contract in the subform, which displays data from the related tblBilling table.

4. Make sure the "Choose from a list" option button is selected, make sure "Show tblBilling for each record in tblVisit using VisitID" is highlighted in the list, and then click the **Next** button. The next SubForm Wizard dialog box lets you specify a name for the subform.

5. Type **frmBillingSubform** and then click the **Finish** button. Access increases the height and width of the subform in the form. The subform will display the related tblBilling records; its label appears above the subform and displays the subform name.

6. Deselect all controls, save your form changes, switch to Form view, and then click the **VisitID** text box to deselect the value. If the record for VisitID 1557 is not selected, then click the drop-down arrow for the Select Visit combo box and scroll down the list to select VisitID 1557. See Figure 6-37.

Figure 6-37 **Viewing the subform in Form view**



The subform displays the four invoices related to visit ID 1557.

Trouble? If the widths of the columns in your datasheet differ or the position of your subform is different, don't worry. You'll resize all columns to their best fit and move the subform later.

After viewing the form, Raj identifies some modifications he wants you to make. The subform is not properly sized and the columns in the subform are not sized to their best fit. He wants you to resize the subform and its columns, so that all columns in the subform are entirely visible. Also, he asks you to delete the subform label, because the label is unnecessary for identifying the subform contents. You'll use Design view and Layout view to make these changes.

To modify the subform's design:

1. Switch to Design view. Notice that in Design view, the subform data does not appear in a datasheet format as it does in Form view. That difference causes no problem; you can ignore it.

   First, you'll delete the subform label.

2. Deselect all controls (if necessary), right-click the **frmBillingSubform** subform label to open the shortcut menu (make sure no other controls have handles), and then click **Cut**.

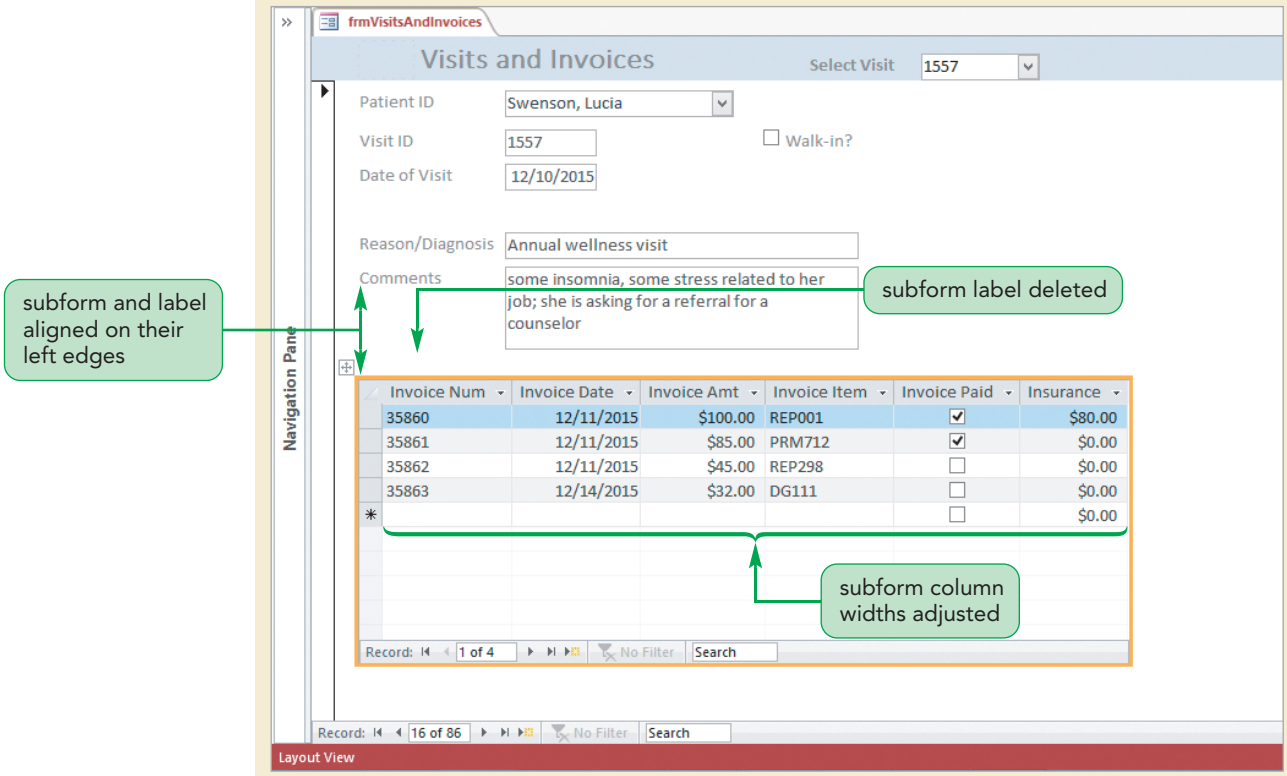
   Next, you'll move the subform by aligning it with the Comments label.

3. Click the edge of the subform to select it (an orange border and handles appear on the subform's border when the subform is selected), hold down the **Shift** key, click the **Comments** label, and then release the **Shift** key. The subform and the Comments label are selected. Next you'll align the two controls on their left edges.
4. Right-click the **Comments** label, point to **Align** on the shortcut menu, and then click **Left**. The two controls are aligned on their left edges. You'll resize the subform in Layout view, so you can see your changes as you make them.
5. Switch to Layout view, click the edge of the subform to select it, and then drag the right edge of the subform to the right until all six datasheet columns are fully visible.

   Before resizing the columns in the subform, you'll display record 16 in the main form. The subform for this record contains the related records in the tblBilling table with one of the longest field values.
6. Use the record navigation bar for the main form (at the bottom left of the form window) to display record 16, for visit number 1557, and then resize each column in the subform to its best fit.

   Next, you'll resize the subform again so its width matches the width of the five resized columns.
7. Resize the subform's right edge, so it is aligned with the right edge of the Insurance column. See Figure 6-38.

Figure 6-38 **After moving and resizing the subform**



You've finished your work with the subform. Now you need to add two calculated controls to the main form.

Displaying a Subform's Calculated Controls in the Main Form

TIP

You precede expressions with an equal sign to distinguish them from field names, which do not have an equal sign.

Raj's form design includes the display of calculated controls in the main form that tally the number of invoices and the total of the invoice amounts for the related records displayed in the subform. To display these calculated controls in a form or report, you use the Count and Sum functions. The Count function determines the number of occurrences of an expression; its general format as a control in a form or report is =Count(*expression*). The Sum function calculates the total of an expression, and its general format as a control in a form or report is =Sum(*expression*). The number of invoices and total of invoice amounts are displayed in the subform's Detail section, so you'll need to place the calculated controls in the subform's Form Footer section.

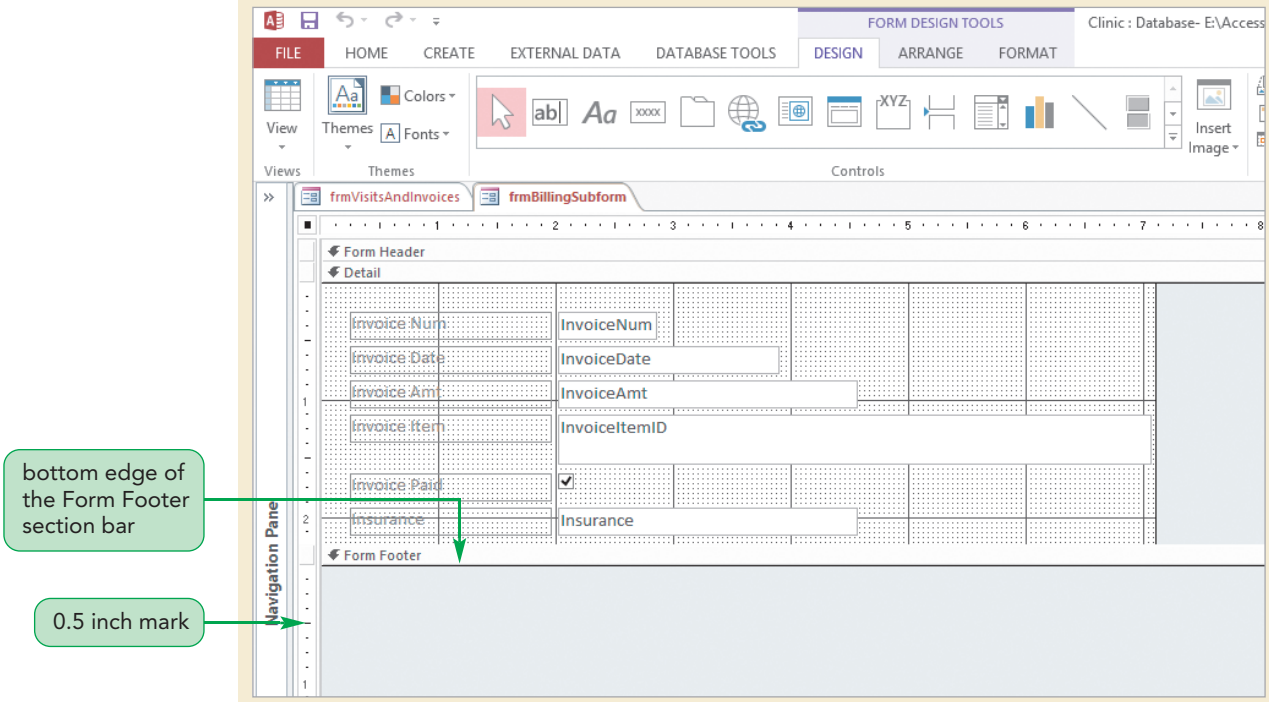
Adding Calculated Controls to a Subform's Form Footer Section

First, you'll open the subform in Design view in another window and add the calculated controls to the subform's Form Footer section.

To add calculated controls to the subform's Form Footer section:

1. Save your form design changes, switch to Design view, click an unused area of the grid to deselect any selected controls, click the subform border to select the subform, right-click the border, and then click **Subform in New Window** on the shortcut menu. The subform opens in Design view. See Figure 6-39.

Figure 6-39 Subform in Design view



The subform's Detail section contains the tblBilling table fields. As a subform in the main form, the fields appear in a datasheet even though the fields do not appear that way in Design view. The heights of the subform's Form

Header and Form Footer sections are zero, meaning that these sections have been removed from the subform. You'll increase the height of the Form Footer section so that you can add the two calculated controls to the section.

2. Place the pointer at the bottom edge of the Form Footer section bar. When the pointer changes to a ↕ shape, drag the bottom edge of the section down to the 0.5-inch mark on the vertical ruler.

Now you'll add the first calculated control to the Form Footer section. To create the text box for the calculated control, you use the **Text Box tool** in the Controls group on the DESIGN tab. Because the Form Footer section is not displayed in a datasheet, you do not need to position the control precisely.

3. On the DESIGN tab, in the Controls group, click the **Text Box** tool ab|.

4. Position the + portion of the pointer near the top of the Form Footer section and at the 1-inch mark on the horizontal ruler, and then click the mouse button. Access places a text box control and an attached label control to its left in the Form Footer section.

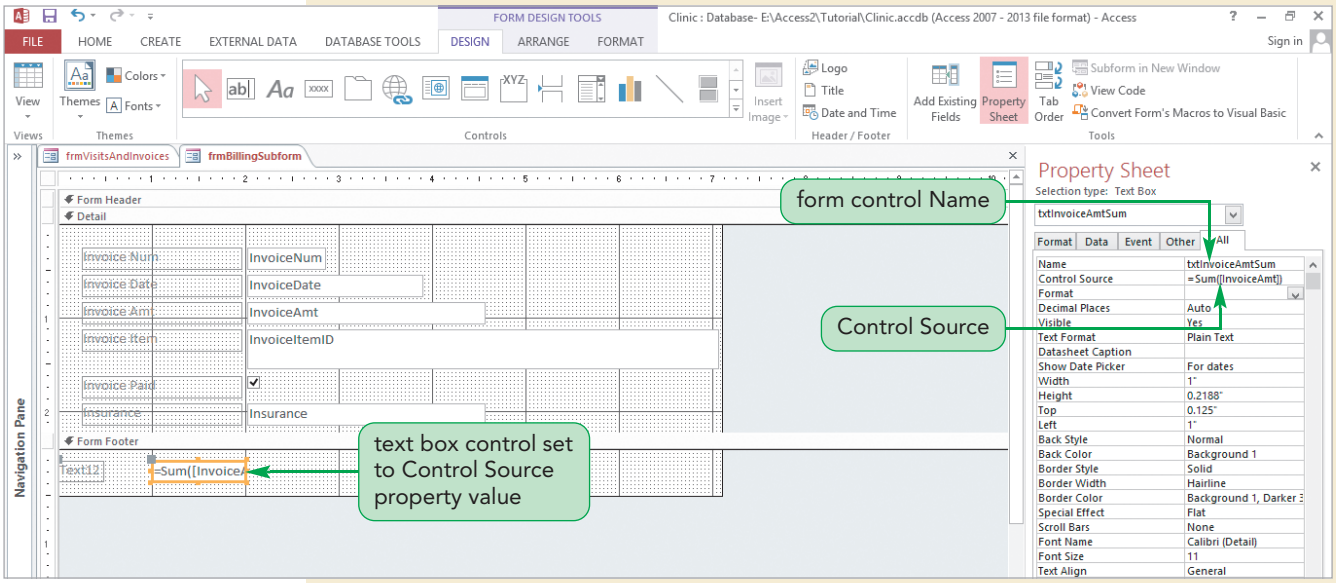
Next, you'll set the Name and Control Source properties for the text box. Recall that the Name property specifies the name of an object or control. Later, when you add the calculated control in the main form, you'll reference the subform's calculated control value by using its Name property value. The **Control Source property** specifies the source of the data that appears in the control; the Control Source property setting can be either a field name or an expression.

TIP

Read the Naming Conventions section in the appendix titled "Relational Databases and Database Design" for more information about naming conventions.

5. Open the Property Sheet for the text box in the Form Footer section (the word "Unbound" is displayed inside the text box), click the **All** tab (if necessary), select the value in the Name box, type **txtInvoiceAmtSum** in the Name box, press the **Tab** key, type **=Sum(Inv** in the Control Source box, press the **Tab** key to accept the rest of the field name of InvoiceAmt suggested by Formula AutoComplete, type **)** (a right parenthesis), and then press the **Tab** key. InvoiceAmt is enclosed in brackets in the expression because it's a field name. See Figure 6-40.

Figure 6-40 Setting properties for the subform calculated control



You've finished creating the first calculated control; now you'll create the other calculated control.

TIP

In txtInvoiceNum-Count, txt identifies the control type (a text box), InvoiceNum is the related field name, and Count identifies the control as a count control.

6. Repeat Steps 3 through 5, positioning the + portion of the pointer near the top of the Form Footer section and at the 4-inch mark on the horizontal ruler, setting the Name property value to **txtInvoiceNumCount**, and setting the Control Source property value to **=Count([InvoiceNum])**.

   When you use the Count function, you are counting the number of displayed records—in this case, the number of records displayed in the subform. Instead of using InvoiceNum as the expression for the Count function, you could use any of the other fields displayed in the subform.

   You've finished creating the subform's calculated controls, so you can close the Property Sheet, save your subform design changes, and return to the main form.

7. Close the Property Sheet, save your subform changes, and then close the subform. The active object is now the main form in Design view.

   Trouble? The subform in the frmContractsAndInvoices form might appear to be blank after you close the frmInvoiceSubform form. This is a temporary effect; the subform's controls do still exist. Switch to Form view and then back to Design view to display the subform's controls.

8. Switch to Form view. The calculated controls you added in the subform's Form Footer section are *not* displayed in the subform.

9. Switch to Design view.

Next, you'll add two calculated controls in the main form to display the two calculated controls from the subform.

Adding Calculated Controls to a Main Form

The subform's calculated controls now contain a count of the number of invoices and a total of the invoice amounts. Raj's design has the two calculated controls displayed in the main form, not in the subform. You need to add two calculated controls in the main form that reference the values in the subform's calculated controls. Because it's easy to make a typing mistake with these references, you'll use Expression Builder to set the Control Source property for the two main form calculated controls.

To add a calculated control to the main form's Detail section:

1. Adjust the length of the Detail section if necessary so there is approximately 0.5 inch below the frmBillingSubform control. The Detail section should be approximately 5.5 inches.

2. On the DESIGN tab, in the Controls group, click the **Text Box** tool ab, and then add the text box and its attached label in the Detail section, clicking the + portion of the pointer at the 1-inch mark on the horizontal ruler and below the frmBillingSubform control, approximately the 5-inch mark on the vertical ruler. Don't be concerned about positioning the control precisely because you'll resize and move the label and text box later.

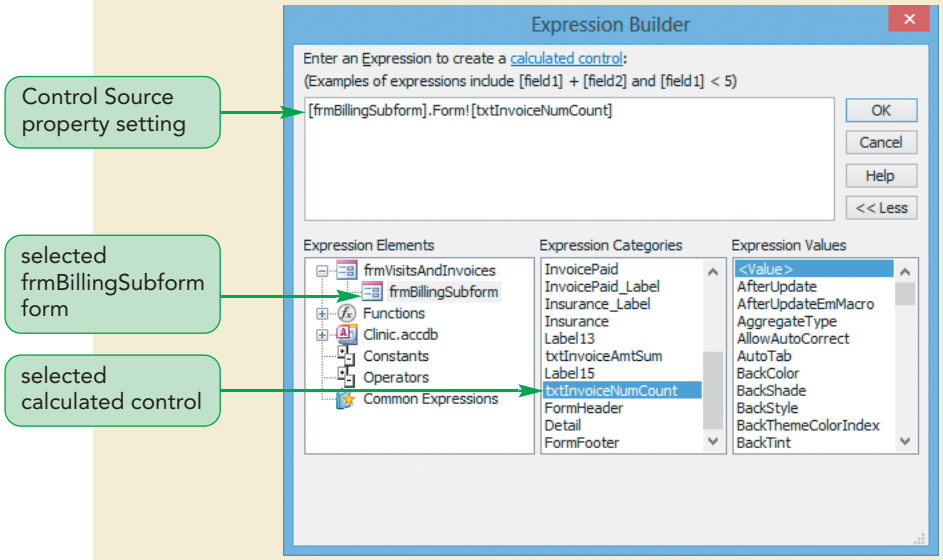
3. Select the label and open the Property Sheet, set its Caption property to **Number of Invoices**, right-click an edge of the label to open the shortcut menu, point to **Size**, and then click **To Fit**. Don't worry if the label now overlaps the text box.

You'll use Expression Builder to set Control Source property for the text box.

4. Click the text box (the word "Unbound" is displayed inside the text box) to select it, click the **Control Source** box in the Property Sheet, and then click the property's **Build** button ... to open Expression Builder.

5. In the Expression Elements box, click the **expand indicator** next to frmVisitsAndInvoices, click **frmBillingSubform** in the Expression Elements box, scroll down the Expression Categories box, and then double-click **txtInvoiceNumCount** in the Expression Categories box. See Figure 6-41.

Figure 6-41 **Text box control's expression in the Expression Builder dialog box**



Instead of adding txtInvoiceNumCount to the expression box at the top, Access changed it to Form![frmBillingSubform]![txtInvoiceNumCount]. This expression asks Access to display the value of the txtInvoiceNumCount control that is located in the frmBillingSubform form, which is a form object.

You need to add an equal sign to the beginning of the expression.

6. Press the **Home** key, type = (an equal sign), and then click the **OK** button. Access closes the Expression Builder dialog box and sets the Control Source property.

Next, you'll add a second text box to the main form, set the Caption property for the label, and use Expression Builder to set the text box's Control Source property.

Be sure you resize the label to its best fit.

7. Repeat Steps 2 and 3 to add a text box to the main form, clicking the + portion of the pointer at the 4-inch mark on the horizontal ruler and approximately the 5-inch mark on the vertical ruler, and setting the label's Caption property to **Invoice Amount Total**.

8. Click the new text box (containing the word "Unbound") to select it, click the **Control Source** box in the Property Sheet, and then click the property's **Build** button ... to open Expression Builder.

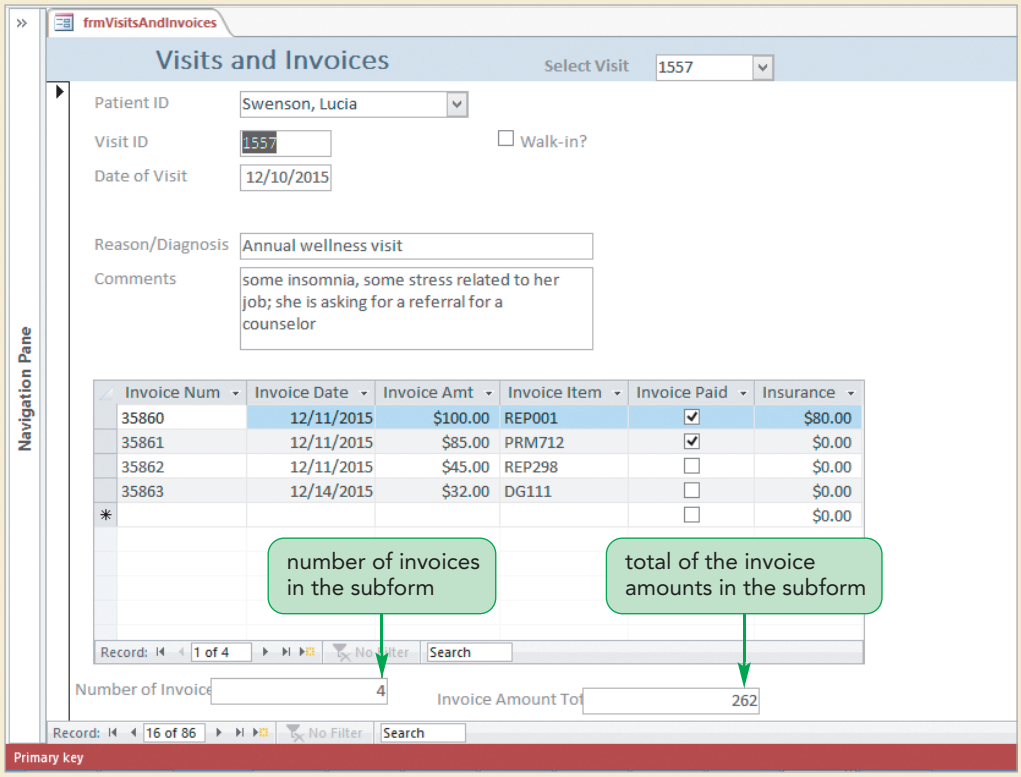
9. With the Expression Builder dialog box open for the new text box, type **=** (an equal sign), click the **expand indicator** next to frmVisitsAndInvoices in the Expression Elements box, click **frmBillingSubform** in the Expression Elements box, scroll down the Expression Categories box, and then

double-click **txtInvoiceAmtSum** in the Expression Categories box. Access changes the txtInvoiceAmtSum calculated field to the expression = [frmBillingSubform].Form![txtInvoiceAmtSum].

Next, you'll save your form changes and view the form in Layout view.

10. Click the **OK** button to accept the expression and close the Expression Builder dialog box, close the Property Sheet, save your form changes, and then switch to Form view. If the record for VisitID 1557 is not selected, then click the drop-down arrow for the Select Visit combo box and scroll down the list to select VisitID 1557. See Figure 6-42.

Figure 6-42 **After adding two calculated controls**



Next, you need to resize, move, and format the two calculated controls and their attached labels.

Resizing, Moving, and Formatting Calculated Controls

In addition to resizing and repositioning the two calculated controls and their attached labels, you need to change the format of the rightmost calculated control to Currency and to set the following properties for both calculated controls:

- Set the Tab Stop property to a value of No. The **Tab Stop property** specifies whether users can use the Tab key to move to a control on a form. If the Tab Stop property is set to No, users can't tab to the control.
- Set the ControlTip Text property to a value of "Calculated total number of invoices for this patient visit" for the calculated control on the left and "Calculated invoice total for this patient visit" for the calculated control on the right. The **ControlTip Text property** specifies the text that appears in a ScreenTip when users hold the mouse pointer over a control in a form.

INSIGHT

Setting Properties in the Property Sheet

You can set many properties in the Property Sheet by typing a value in the property's box, by clicking the arrow on the property and then selecting a value from the menu, or by double-clicking the property name. If you need to set a property by typing a long text entry, you can open the Zoom dialog box and type the entry in the dialog box. You can also use Expression Builder to help you enter expressions.

Now you'll resize, move, and format the calculated controls and their attached labels, and you'll set other properties for the calculated controls.

To modify the calculated controls and their attached labels:

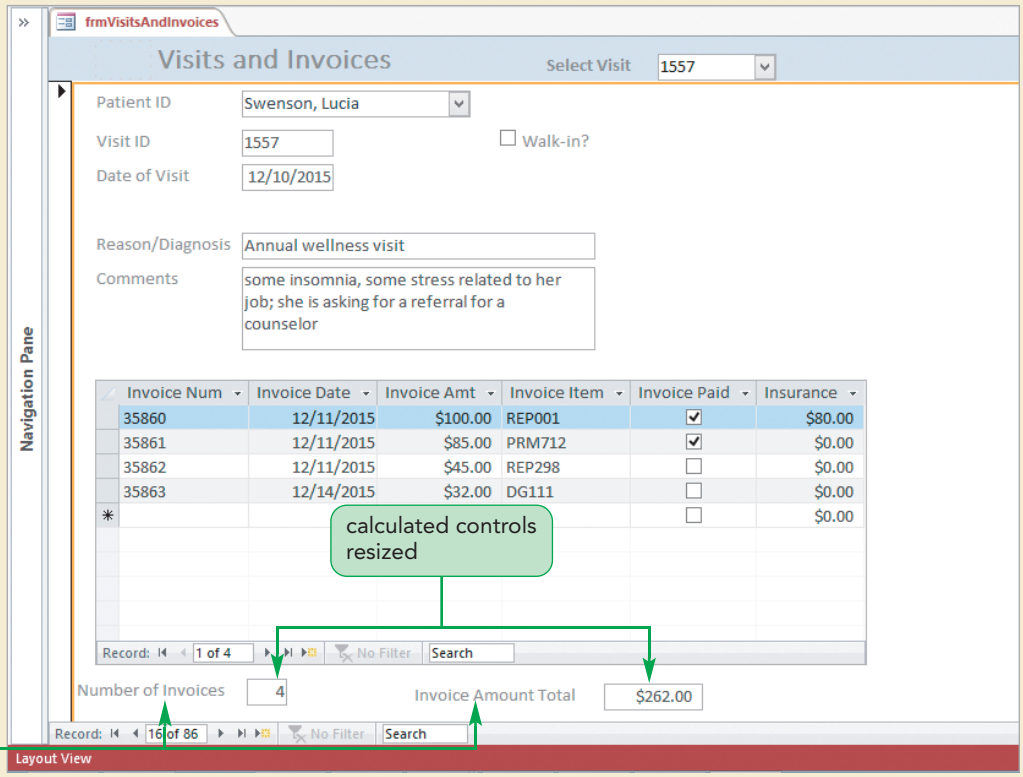
1. Switch to Layout view, right-click the calculated control on the right, click **Properties** on the shortcut menu to open the Property Sheet, click the **All** tab in the Property Sheet (if necessary), set the Format property to **Currency**, and then close the Property Sheet. The value displayed in the calculated control changes from 262 to $262.00.

   Now you'll resize the calculated controls, adjust the positions of each paired label and field value box with respect to each other, and then move the controls into their final positions in the form.

2. Individually, reduce the widths of the two calculated controls by dragging the left or right border to shrink the text box width.

3. Click the **Number of Invoices** label, use the → key on the keyboard to move the text box and label into the position shown in Figure 6-43, repeat the process for the **Invoice Amount Total** label and its related calculated control, and then deselect all controls. See Figure 6-43.

Figure 6-43 After modifying the calculated controls and their labels



4. Switch to Design view and double-click the HOME tab to minimize the ribbon. Select the **Number of Invoices** label and its related calculated control, and use the right arrow key to move the label and its related text box to the right, aligning the left edges of the label with the left edge of the Comments label as much as possible, moving the controls two grid dots from the bottom of the subform control.

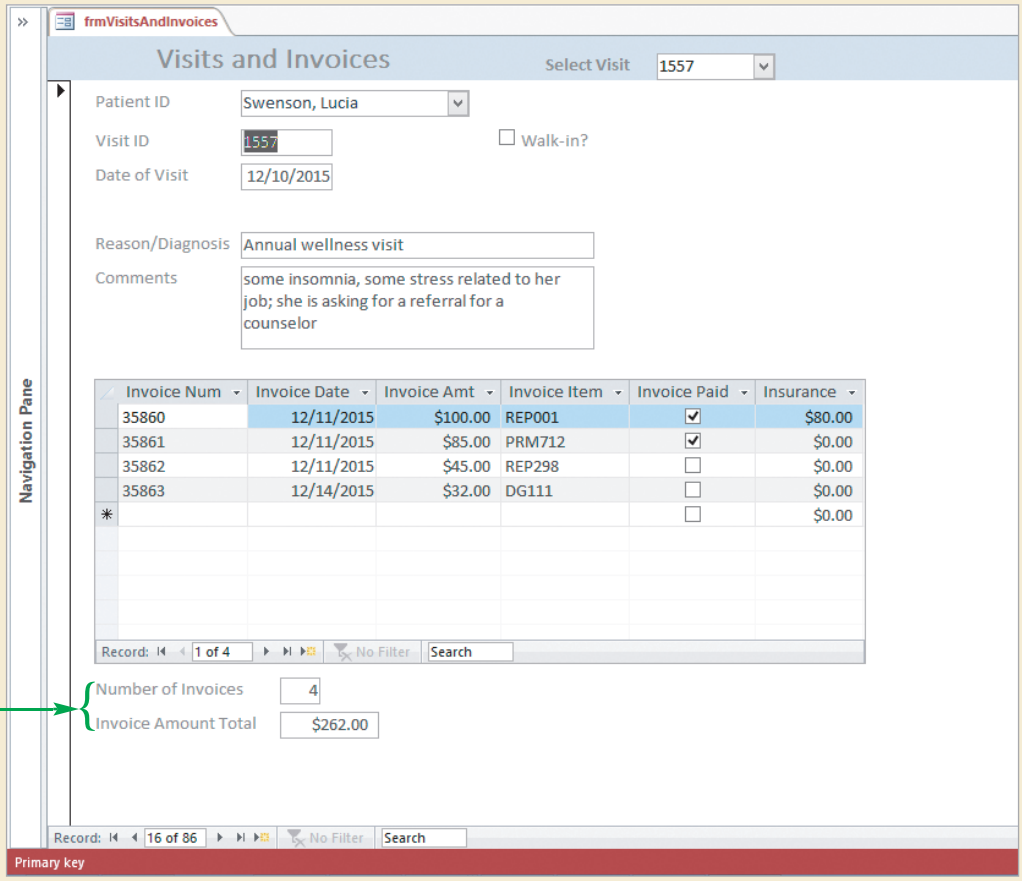
5. Lengthen the Detail section to approximately 6 inches. Deselect the selected controls, and then use the Shift key to select the **Invoice Amount Total** label and its related calculated control. Use the move handle on the calculated control text box to move it below the Number of Invoices label and its related text box.

6. Select the **Invoice Amount Total** label and its related calculated control and use the arrow keys to align the two calculated control text boxes on their left edges as shown in Figure 6-44, deselect all controls, and then switch to Form view and select record 1557. If the label controls are not fully visible, select the calculated controls, and use the right arrow key to move the controls to the right.

TIP

In Design view you must use the move handle to move only a text box or its label, while in Layout view you can use either the move handle or the arrow keys.

Figure 6-44 After moving and aligning the calculated controls and their labels



modified calculated controls and labels

7. Switch to Layout view, select only the bottom calculated control, right-click, click **Properties** on the shortcut menu, and then click the **Other** tab in the Property Sheet.

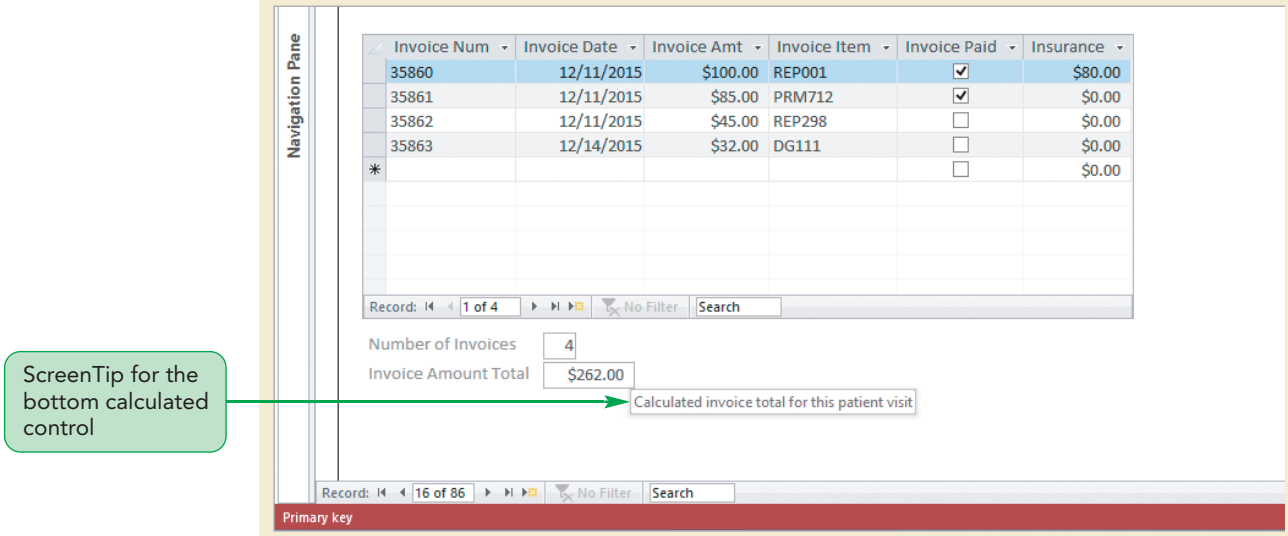
8. Set the Tab Stop property to **No**, and then set the ControlTip Text property to **Calculated invoice total for this patient visit.**

9. Click the top calculated control, set the Tab Stop property to **No**, and then set the ControlTip Text property to **Calculated total number of invoices for this patient visit**.

10. Close the Property Sheet, save your form design changes, and then switch to Form view. Select visit 1557 from the Visit combo box if necessary.

11. Click the **Number of Invoices** text box, position the pointer on the Number of Invoices text box to display its ScreenTip, click the **Invoice Amount Total** text box, and then position the pointer on the Invoice Amount Total text box to display its ScreenTip. You may have to pause while you position the mouse pointer over the text box, until the ScreenTip appears. See Figure 6-45.

Figure 6-45 **Displaying a control's ScreenTip**



Raj asks you to verify that users can't update the calculated controls in the main form and that when users tab through the controls in the form, the controls are selected in the correct order.

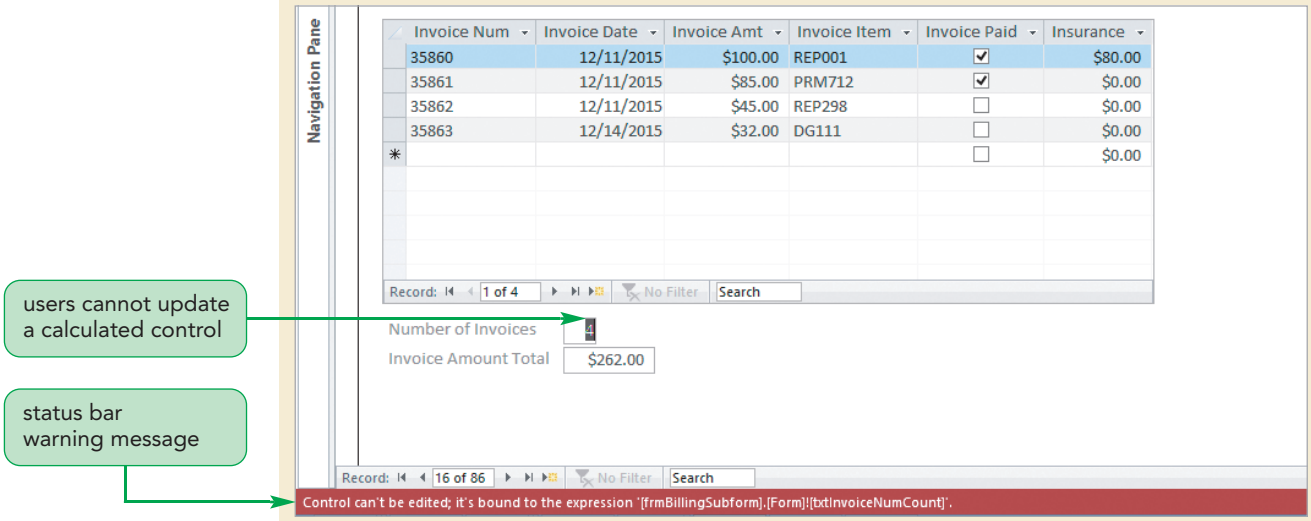
Changing the Tab Order in a Form

Pressing the Tab key in Form view moves the focus from one control to another. A control is said to have **focus** when it is active and awaiting user action. The order in which the focus moves from control to control when a user presses the Tab key is called the **tab order**. Setting tab stops enables the user to keep his or her hands on the keyboard without reaching for the mouse and speeds up the process of data entry in a form. Raj wants to verify that the tab order in the main form is top-to-bottom, left-to-right. First, you'll verify that users can't update the calculated controls.

To test the calculated controls and modify the tab order:

1. Select the value in the Number of Invoices text box, and then type **8**. The Number of Invoices value remains unchanged, and a message is displayed on the status bar. See Figure 6-46.

Figure 6-46 After attempting to update a calculated control



The status bar message warns you that you can't update, or edit, the calculated control because it's bound to an expression. The calculated control in the main form changes in value only when the value of the expression changes in the subform.

2. Click the **Invoice Amount Total** text box, and then type **8**. The value remains unchanged, and a message again displays on the status bar because you cannot edit a calculated control.

Next, you'll determine the tab order of the fields in the main form. Raj wants the tab order to be down and then across.

3. Select the value in the Visit ID text box, press the **Tab** key to advance to the VisitDate text box, and then press the **Tab** key five more times to advance to the Reason text box, Comments text box, WalkIn check box, and PatientID combo box, in order, and then to the subform.

Access sets the tab order in the same order in which you add controls to a form, so you should always check the form's tab order when you create a custom form in Layout or Design view. In this form your testing reveals that you tab through the field value boxes in the main form before tabbing through the fields in the subform. In the main form, tabbing bypasses the two calculated controls because you set their Tab Stop properties to No, and you bypass the Select Visit combo box because it's an unbound control. Also, you tab through only the field value boxes in a form, but not the labels.

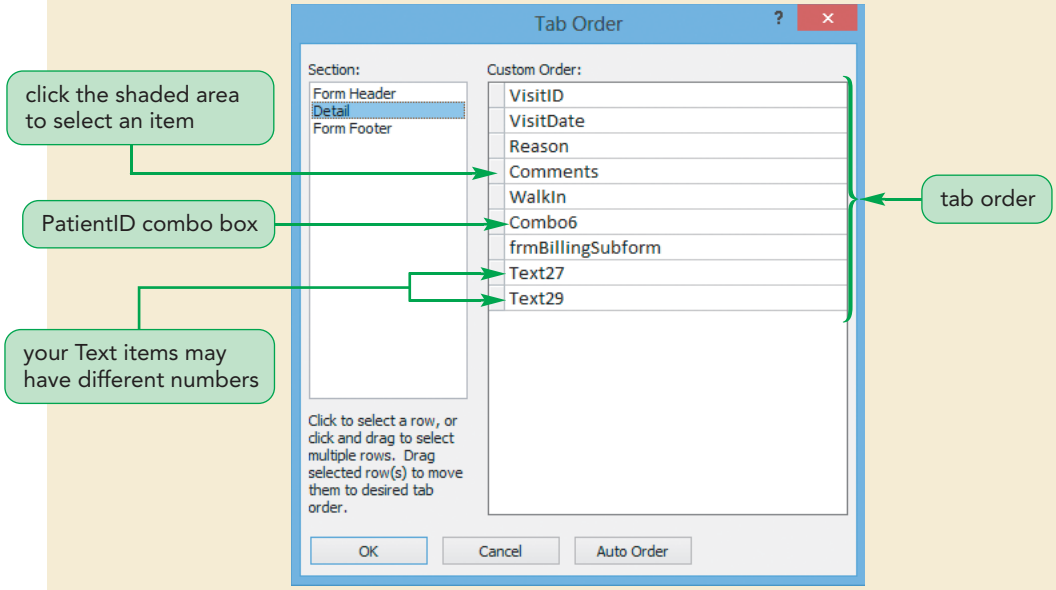
The tab order Raj wants for the field value boxes in the main form (top-to-bottom, left-to-right) should be the following: PatientID, VisitID, WalkIn, VisitDate, Reason, Comments, and then the subform. The default tab order doesn't match the order Raj wants, so you'll change the tab order. You can change the tab order only in Design view.

TIP

Setting the Name property for all your controls to meaningful names avoids having to guess which control a name references in this and similar situations.

4. Double-click the HOME tab to maximize the ribbon, switch to Design view, and then on the DESIGN tab, in the Tools group, click the **Tab Order** button. The Tab Order dialog box opens. See Figure 6-47.

Figure 6-47 **Changing the tab order for the Detail section in the main form**



Because you did not set the Name property for the combo box control and the calculated controls, Access assigned their names: Combo6 (your name might be different) for the PatientID combo box, Text27 (your name might be different) for the Number of Invoices calculated control, and Text29 (your name might be different) for the Invoice Amount Total calculated control. The Auto Order button lets you create a left-to-right, top-to-bottom tab order automatically, which is not the order Raj wants. You need to move the Combo6 entry above the VisitID entry.

5. Click the **row selector** to the left of Combo6, drag the row selector above the VisitID entry, and then repeat to move WalkIn above VisitDate. The entries are now correct and in the correct order.

6. Click the **OK** button, save your form design changes, switch to Form view, and then tab through the controls in the main form to make sure the tab order is correct (Combo6, VisitID, WalkIn, VisitDate, Reason, Comments, frmBillingSubform, Text27, Text29).

   Trouble? If the tab order is incorrect, switch to Design view, click the Tab Order button in the Tools group on the DESIGN tab, change your tab order in the Tab Order dialog box to match the order described in Step 6, and then repeat Step 6.

PROSKILLS

Written Communication: Enhancing Information Using Calculated Controls

For a small number of records in a subform, it's easy for users to quickly count the number of records and to calculate numeric total amounts when the form doesn't display calculated controls. For instance, when students have completed few courses or when people have made few tax payments, it's easy for users to count the courses and calculate the student's GPA or to count and total the tax payments. But for subforms with dozens or hundreds of records—for instance, students with many courses, or people with many tax payments—displaying summary calculated controls is mandatory. By adding a few simple calculated controls to forms and reports, you can increase the usefulness of the information presented and improve the ability of users to process the information, spot trends, and be more productive in their jobs.

You've finished adding controls to the form, but the form is plain looking and lacks visual clues for the different controls in the form. You'll complete the form by making it more attractive and easier for Cindi and her staff to use.

Improving a Form's Appearance

The frmVisitsAndInvoices form has four distinct areas: the Form Header section containing the title and the Select Visit combo box, the six bound controls in the Detail section, the subform in the Detail section, and the two calculated controls in the Detail section. To visually separate these four areas, you'll increase the height of the Form Header section, add a horizontal line at the bottom of the Form Header section, and draw a rectangle around the calculated controls.

Adding a Line to a Form

You can use lines in a form to improve the form's readability, to group related information, or to underline important values. You use the Line tool in Design view to add a line to a form or report.

REFERENCE

Adding a Line to a Form or Report

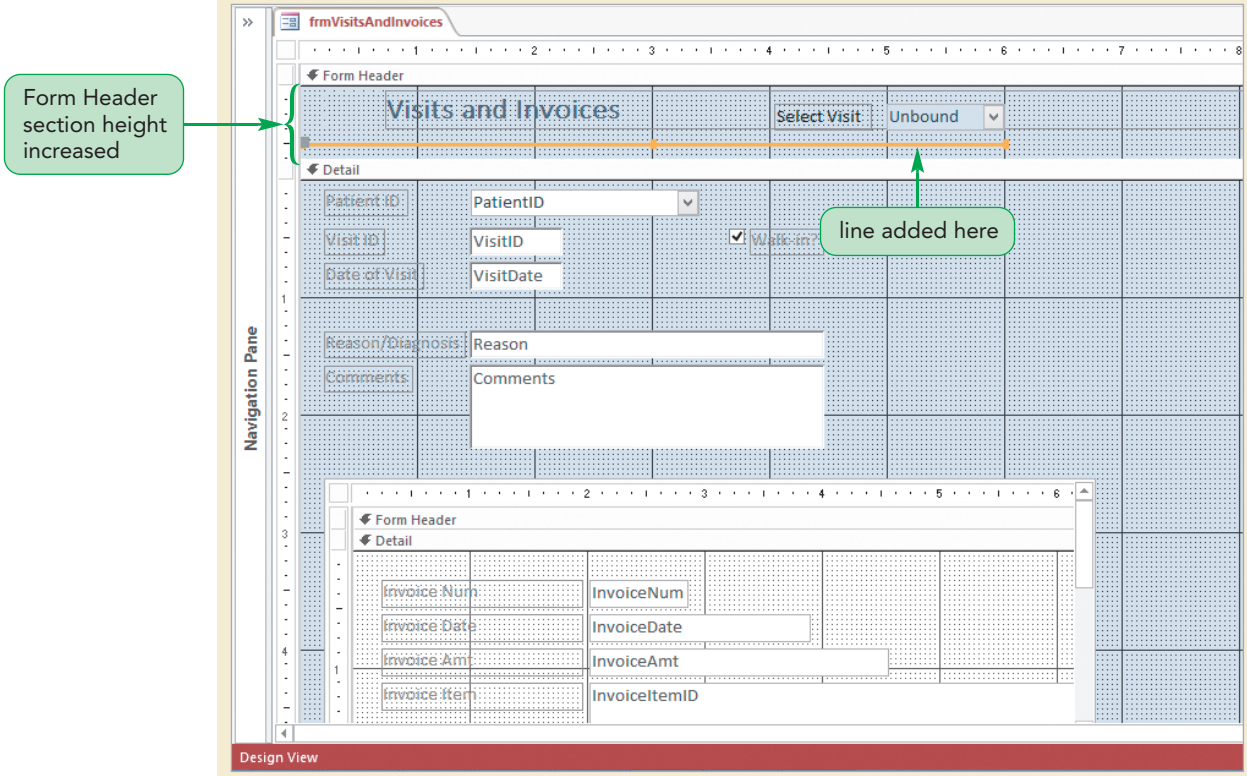
- Display the form or report in Design view.
- On the DESIGN tab, in the Controls group, click the More button, and then click the Line tool.
- Position the pointer where you want the line to begin.
- Drag the pointer to the position for the end of the line, and then release the mouse button. If you want to ensure that you draw a straight horizontal or vertical line, hold down the Shift key before and during the drag operation.
- To make small adjustments to the line length, select the line, hold down the Shift key, and then press an arrow key. To make small adjustments in the placement of a line, select the line, hold down the Ctrl key, and then press an arrow key.

You will add a horizontal line to the Form Header section to separate the controls in this section from the controls in the Detail section.

To add a line to the form:

1. Switch to Design view, and then drag down the bottom of the Form Header section to the 1-inch mark on the vertical ruler to make room to draw a horizontal line at the bottom of the Form Header section.
2. On the DESIGN tab, in the Controls group, click the **More** button to open the Controls gallery, and then click the **Line** tool.
3. Position the pointer's plus symbol (+) at the left edge of the Form Header section just below the title.
4. Hold down the **Shift** key, drag a horizontal line from left to right so the end of the line ends at the 6-inch mark on the vertical ruler, release the mouse button, and then release the **Shift** key. See Figure 6-48.

Figure 6-48 Adding a line to the form



Trouble? If the line is not straight or not positioned correctly, click the Undo button on the Quick Access Toolbar, and then repeat Steps 2 through 4. If the line is not the correct length, be sure the line is selected, hold down the Shift key, and press the left or right arrow key until the line's length is the same as that of the line shown in Figure 6-48.

5. Drag up the bottom of the Form Header section to just below the line.
6. Save your form design changes.

Next, you'll add a rectangle around the calculated controls in the Detail section.

Adding a Rectangle to a Form

You can use a rectangle in a form to group related controls and to separate the group from other controls. You use the **Rectangle tool** in Design view to add a rectangle to a form or report.

REFERENCE

Adding a Rectangle to a Form or Report

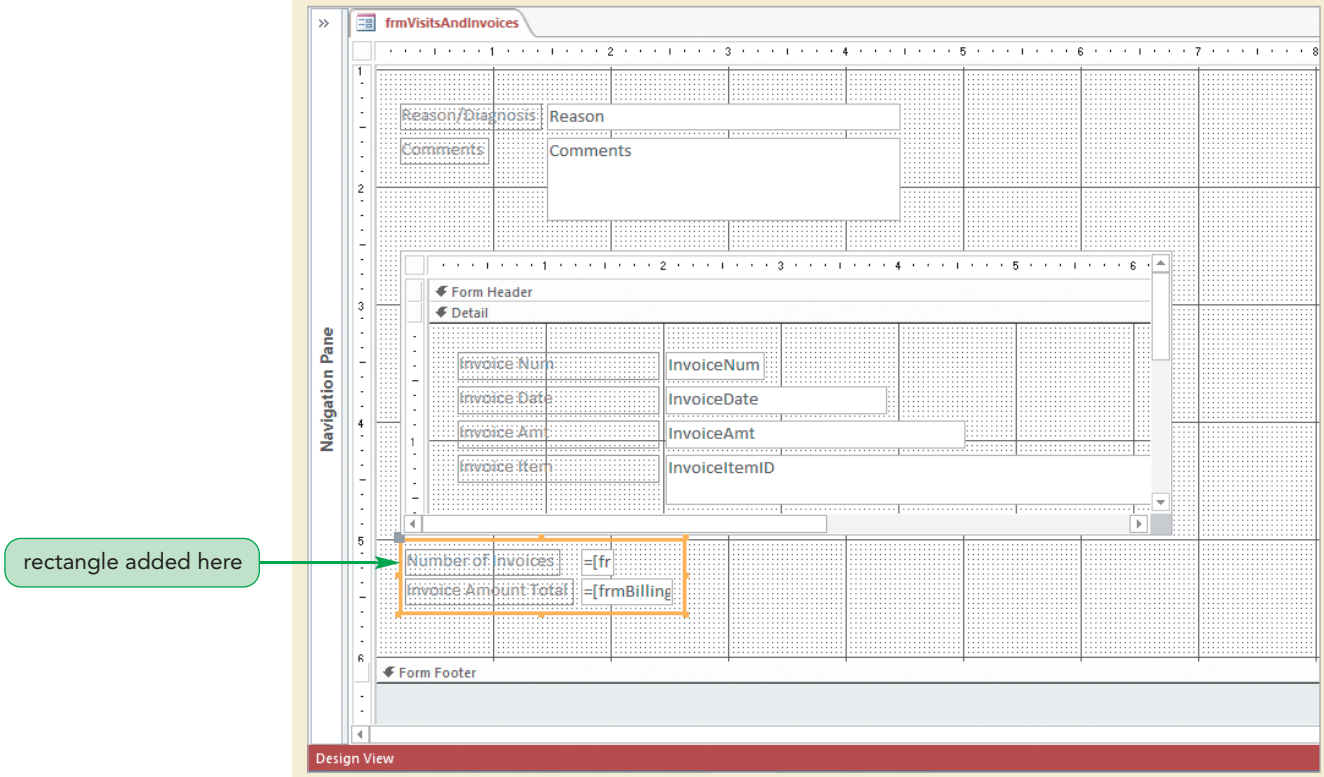
- Display the form or report in Design view.
- On the DESIGN tab, in the Controls group, click the More button, and then click the Rectangle tool.
- Click in the form or report to create a default-sized rectangle, or drag a rectangle in the position and size you want.

You will add a rectangle around the calculated controls and their labels to separate them from the subform and from the other controls in the Detail section.

To add a rectangle to the form:

1. On the DESIGN tab, in the Controls group, click the **More** button to open the Controls gallery, and then click the **Rectangle** tool.
2. Position the pointer's plus symbol (+) approximately two grid dots above and two grid dots to the left of the Number of Invoices label.
3. Drag a rectangle down and to the right until all four sides are approximately two grid dots from the two calculated controls and their labels. See Figure 6-49.

Figure 6-49 Adding a rectangle to the form



Trouble? If the rectangle is not sized or positioned correctly, use the sizing handles to adjust its size and the move handle to adjust its position.

Next, you'll set the thickness of the rectangle's lines.

4. Click the **FORMAT** tab.
5. In the Control Formatting group, click the **Shape Outline arrow**, point to **Line Thickness** at the bottom of the gallery, and then click the line with the ScreenTip **1 pt** in the list (2nd line from the top).
6. Deselect the control.

Next, you'll add color and visual effects to the form's controls.

Modifying the Visual Effects of the Controls in a Form

TIP

Using a theme can improve a form's appearance, but a theme doesn't provide the control you can achieve by setting properties in Design or Layout view.

Distinguishing one group of controls in a form from other groups is an important visual cue to the users of the form. For example, users should be able to distinguish the bound controls in the form from the calculated controls and from the Select Visit control in the Form Header section. You'll now modify the controls in the form to provide these visual cues. You'll start by setting font properties for the calculated control's labels.

To modify the controls in the form:

1. Select the **Number of Invoices** label and the **Invoice Amount Total** label, using the Shift key to select multiple controls.
2. On the FORMAT tab, in the Font group, click the **Font Color button arrow** A, click the **Blue** color (row 7, column 8 in the Standard Colors palette), and then on the FORMAT tab in the Font group, click the **Bold** button B. The labels' captions now use a bold, blue font. In the Form view, the controls will have a white background rather than a gray one, so this color will be more legible.

   Next, you'll set properties for the Select Visit label in the Form Header section.
3. Select the **Select Visit** label in the Form Header section, set the label's font color to **Red** (row 7, column 2 in the Standard Colors palette), and then set the font style to bold.

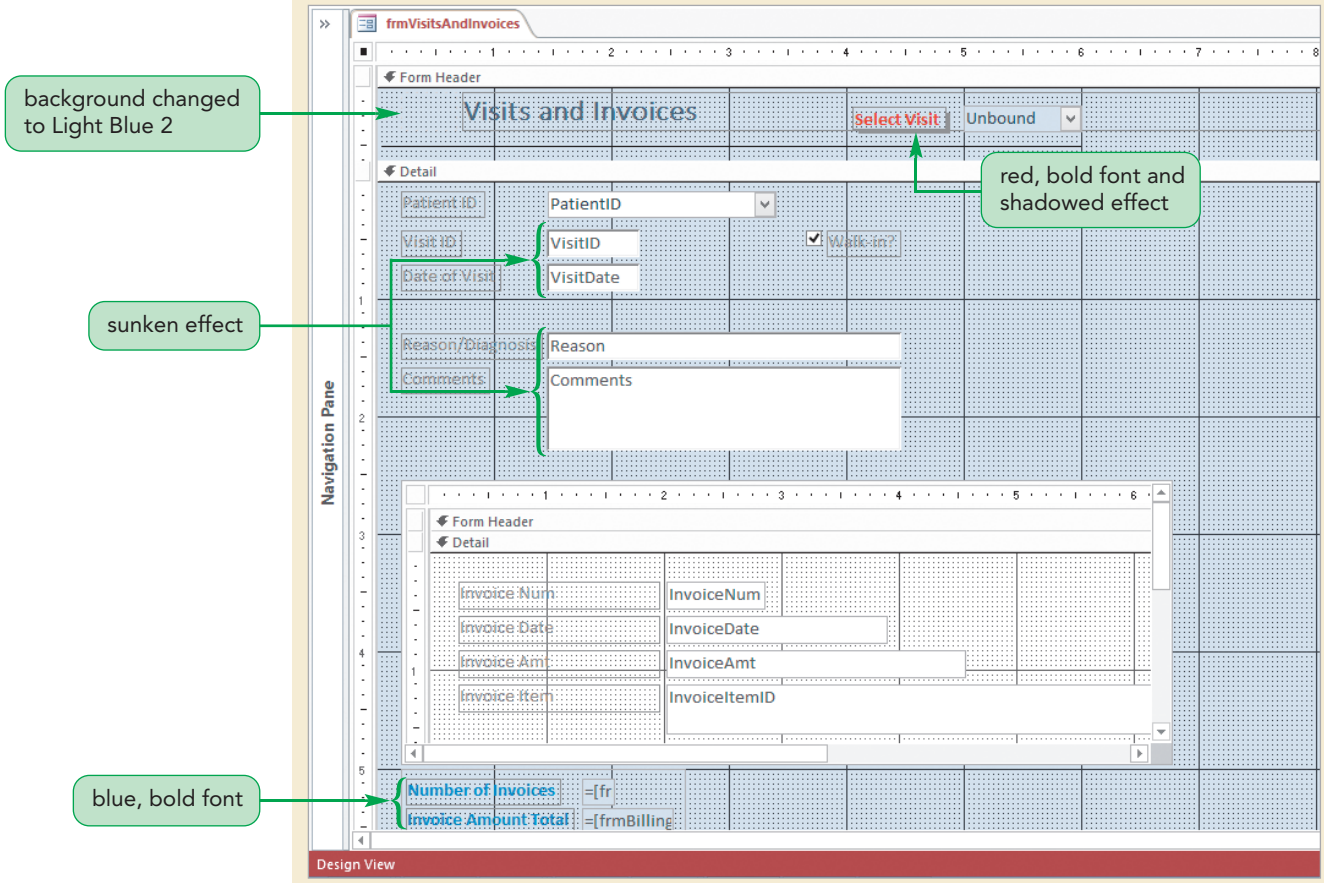
   Next, you'll set the label's Special Effect property to a shadowed effect. The **Special Effect property** specifies the type of special effect applied to a control in a form or report. The choices for this property are Flat, Raised, Sunken, Etched, Shadowed, and Chiseled.
4. Open the Property Sheet for the Select Visit label, click the **All** tab (if necessary), set the Special Effect property to **Shadowed**, and then deselect the label. The label now has a shadowed special effect, and the label's caption now uses a bold, red font.

   Next, you'll set the Special Effect property for the bound control labels to a sunken effect.
5. Select the **VisitID** text box, **VisitDate** text box, **Reason** text box, and **Comments** text box, set the controls' Special Effect property to **Sunken**, close the Property Sheet, and then deselect the controls.

Finally, you'll set the background color of the Form Header section, the Detail section, the combo box, and the two calculated controls. You can use the **Background Color button** in the Font group on the DESIGN tab to change the background color of a control, section, or object (form or report).

6. Click the Form Header section bar.
7. On the FORMAT tab, in the Font group, click the **Background Color button arrow**, and then click the **Light Blue 2** color (row 3, column 5 in the Standard Colors palette). The Form Header's background color changes to the Light Blue 2 color.
8. Click the Detail section bar, and then on the FORMAT tab, in the Font Group, click the **Background Color** button to change the Detail section's background color to the **Light Blue 2** color.
9. Select the **Select Visit** combo box, **Number of Invoices** text box, and the **Invoice Amount Total** text box, set the selected controls' background color to the **Light Blue 2** color, and then deselect all controls by clicking to the right of the Detail section's grid. See Figure 6-50.

Figure 6-50 Completed custom form in Design view



10. Switch to Form view, and then click the **VisitID** text box to select the first value in the list, 1527. The Session 6.3 Visual Overview shows the completed form.

11. Test the form by tabbing between fields, navigating between records, and using the Select Visit combo box to find records, making sure you don't change any field values and observing that the calculated controls display the correct values.

12. Save your form design changes, close the form, make a backup copy of the database, compact and repair the database, and then close the database.

Cindi looked at the datasheet form, the multiple items form, and the custom form. She is really pleased with the choices you provided for her and she'll discuss the choices with her staff.

REVIEW

Session 6.3 Quick Check

1. To create a combo box to find records in a form with the Combo Box Wizard, the form's record source must be a(n) _____.
2. You use the _____ tool to add a subform to a form.
3. To calculate subtotals and overall totals in a form or report, you use the _____ function.
4. The Control Source property setting can be either a(n) _____ or a(n) _____.
5. Explain the difference between the Tab Stop property and tab order.
6. What is focus?
7. The _____ property has settings such as Raised and Sunken.

ASSESS

SAM Projects

Put your skills into practice with SAM Projects! SAM Projects for this tutorial can be found online. If you have a SAM account, go to www.cengage.com/sam2013 to download the most recent Project Instructions and Start Files.

PRACTICE

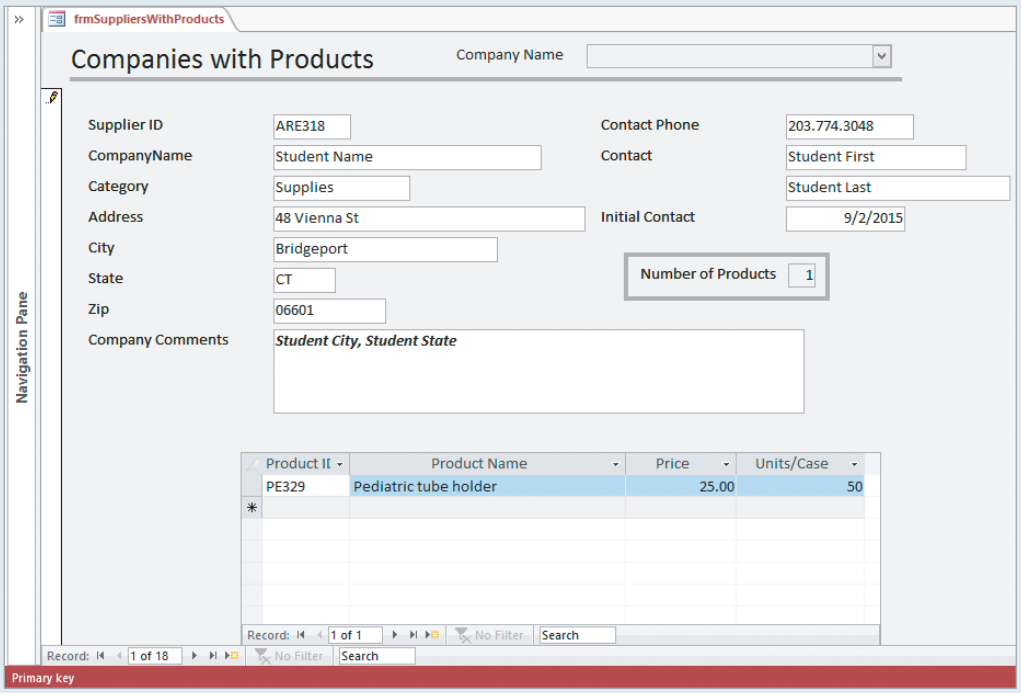
Review Assignments

Data File needed for the Review Assignments: Supplier.accdb (*cont. from Tutorial 5*)

Cindi wants you to create several forms, including a custom form that displays and updates companies and the products they offer. Complete the following steps:

1. Open the **Supplier** database you worked with in Tutorial 5.
2. In the **tblProduct** table, remove the lookup feature from the SupplierID field, and then resize the Supplier ID column in the datasheet to its best fit. Save and close the table.
3. Edit the relationship between the primary tblSupplier and related tblProduct tables to enforce referential integrity and to cascade update related fields. Create the relationship report, save the report as **rptRelationshipsForProducts**, and then close it.
4. Use the Documenter to document the qryCompanyContacts query. Select all query options; use the Names, Data Types, and Sizes option for fields; and use the Names and Fields option for indexes. Print the report produced by the Documenter and then close it.
5. Use the Datasheet tool to create a form based on the tblProduct table, save the form as **frmProductDatasheet**, and then close it.
6. Use the Multiple Items tool to create a form based on the qryDuplicateProductTypes query, save the form as **frmProductTypeMultipleItems**, and then close it.
7. Use the Split Form tool to create a split form based on the tblProduct table, and then make the following changes to the form in Layout view:
   a. Remove the two Units controls from the stacked layout, reduce the width of the Units text box by about half, and then anchor the two Units controls to the bottom left. Depending on the size of your window, the two Units controls may be positioned at the bottom left of the right column.
   b. Remove the five control pairs in the right column from the stacked layout, and then anchor the group to the bottom right. You may see a dotted border outlining the location of the previously removed controls. This may be automatically selected as well.
   c. Remove the ProductName control pair from the stacked layout, move them to the top right, and then anchor them to the top right.
   d. Reduce the widths of the ProductID and SupplierID text boxes to a reasonable size.
   e. Change the title to **Product**, save the modified form as **frmProductSplitForm**, and then close it.
8. Use Figure 6-51 and the following steps to create a custom form named **frmSuppliersWithProducts** based on the tblSupplier and tblProduct tables.

Figure 6-51 **Vendor database custom form design**



a. Place the fields from the tblSupplier table at the top of the Detail section. Delete the Contact Last Name label and change the caption for the Contact First Name label to Contact.

b. Move the fields into two columns in the Detail section, as shown in Figure 6-51, resizing and aligning controls, as necessary, and increasing the width of the form.

c. Add the title in the Form Header section.

d. Make sure the form's Record Source property is set to tblSupplier, and then add a combo box in the Form Header section to find CompanyName field values. In the wizard steps, select the CompanyName and SupplierID fields, and hide the key column. Resize and move the control. Ensure the label displays the text Company Name.

e. Add a subform based on the tblProduct table, include only the fields shown in Figure 6-51, link with SupplierID, name the subform **frmPartialProductSubform**, delete the subform label, resize the columns in the subform to their best fit, and resize and position the subform.

f. Add a calculated control that displays the number of products displayed in the subform. Set the calculated control's Tab Stop property to No, and the ControlTip Text property to **Calculated number of products**.

g. Add a line in the Form Header section, and add a rectangle around the calculated control and its label, setting the line thickness of both controls to the line style with the ScreenTip 3 pt. Set the rectangle's color the same as the line's color.

h. In the main form, use the Black, Text 1 font color (row 1, column 2 in the Theme Colors palette) for all text boxes and for the title text in the Header section, and use the White, Background 1, Darker 5% fill color (row 2, column 1 in the Theme Colors palette) for the sections, the calculated control, and the Company Name combo box.

i. Make sure the tab order is top-to-bottom, left-to-right for the main form text boxes.

9. Make a backup copy of the database, compact and repair the database, and then close the database.

APPLY

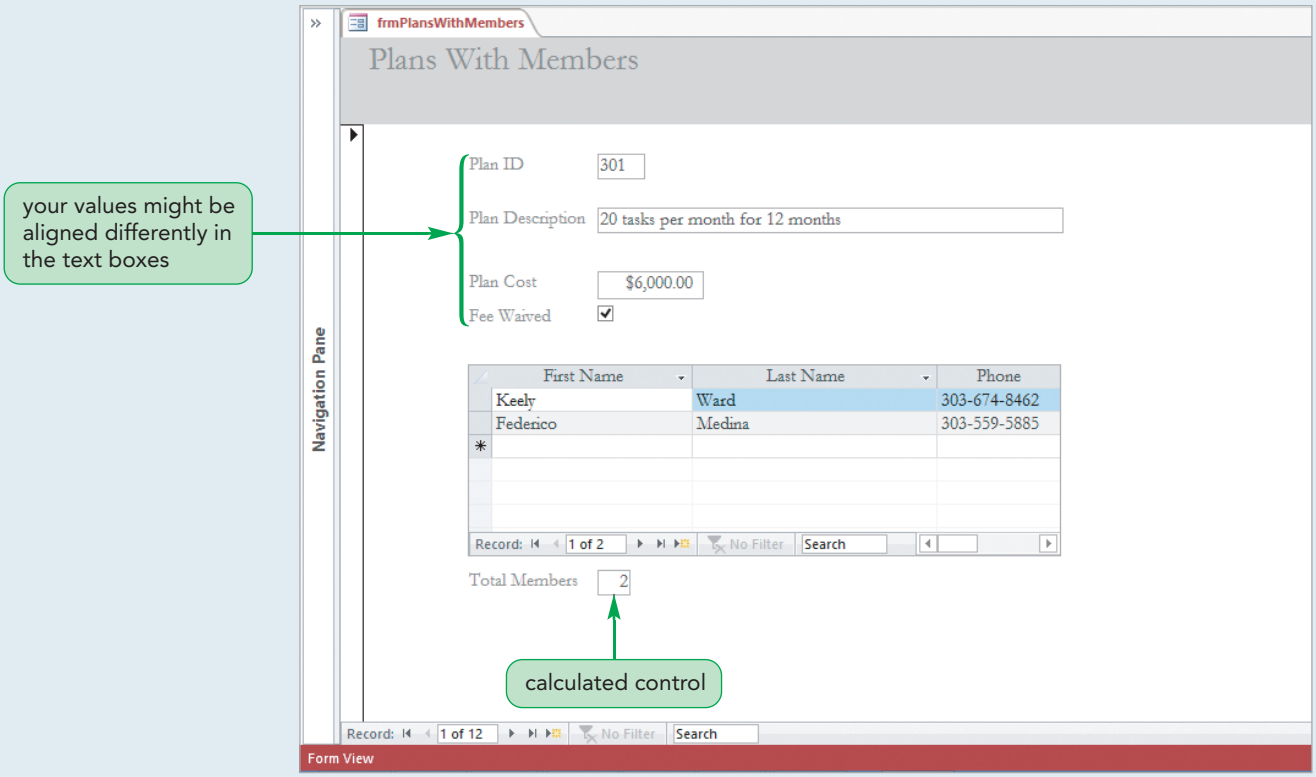
Case Problem 1

Data File needed for this Case Problem: Task.accdb (*cont. from Tutorial 5*)

GoGopher! Amol Mehta wants you to create several forms, including two custom forms that display and update data in the database. Complete the following steps:

1. Open the **Task** database you worked with in Tutorial 5.
2. Use the Documenter to document the qryMemberNames query. Select all query options; use the Names, Data Types, and Sizes option for fields; and use the Names and Fields option for indexes. Print the first page of the report produced by the Documenter.
3. Use the Datasheet tool to create a form based on the tblPlan table, and then save the form as **frmPlanDatasheet**.
4. Create a custom form based on the qryUpcomingExpirations query. Display all fields from the query in the form. Create your own design for the form. Add a label to the bottom of the Detail section that contains your first and last names. Change the label's font so that your name appears in bold, blue text. Change the ExpirationDate text box format so that the field value displays in bold, red text. Save the form as **frmUpcomingExpirations**.
5. Use Figure 6-52 and the following steps to create a custom form named **frmPlansWithMembers** based on the tblPlan and tblMember tables.

Figure 6-52 **Plans custom form design**



a. Place the fields from the tblPlan table at the top of the Detail section and edit the captions in the associated label controls as shown.

b. Selected fields from the tblMember table appear in a subform named **frmPlanMemberSubform**.

c. The calculated control displays the total number of records that appear in the subform. Set the calculated control's ControlTip Text property to **Total number of members in this plan**. Set the calculated control's Tab Stop property to No.
d. Apply the Organic theme to the form.
e. Save and view the form, and then print the first record.

6. Make a backup copy of the database, compact and repair the database, and then close the database.

APPLY

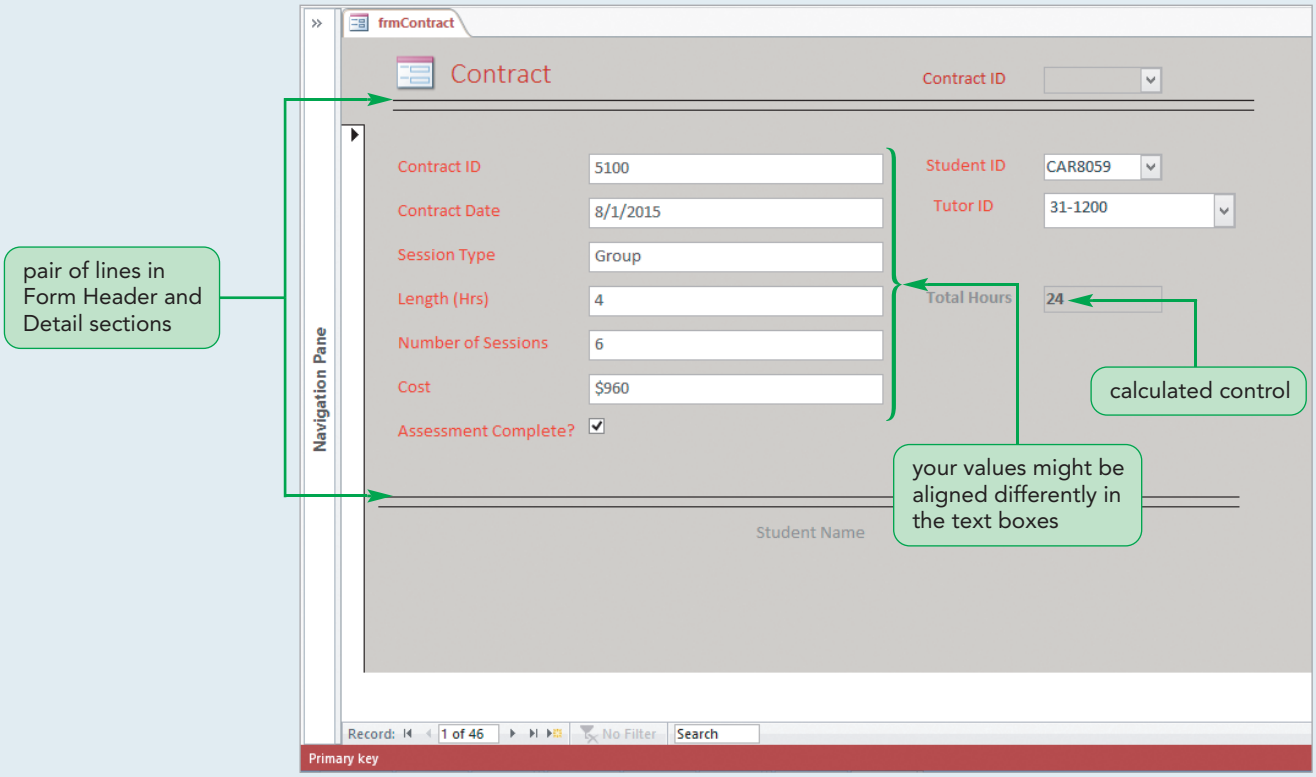
Case Problem 2

Data File needed for this Case Problem: Tutoring.accdb (*cont. from Tutorial 5*)

O'Brien Educational Services Karen O'Brien wants you to create several forms, including a custom form that displays and updates the tutoring service's contracts with students. Complete the following steps:

1. Open the **Tutoring** database you worked with in Tutorial 5.
2. Remove the lookup feature from the TutorID field in the tblContract table, and then resize the Tutor ID column to its best fit. Save and close the table.
3. Define a one-to-many relationship between the primary tblTutor table and the related tblContract table. Select the referential integrity option and the cascade updates option for this relationship.
4. Use the Documenter to document the tblContract table. Select all table options; use the Names, Data Types, and Sizes option for fields; and use the Names and Fields option for indexes. Print the report produced by the Documenter.
5. Create a query called **qryLessonsByTutor** that uses the tblTutor and tblContract tables and includes the fields FirstName and LastName from the tblTutor table, and the fields StudentID, ContractDate, SessionType, Length, and Cost from the tblContract table.
6. Use the Multiple Items tool to create a form based on the qryLessonsByTutor query, change the title to **Lessons by Tutor**, and then save the form as **frmLessonsByTutorMultipleItems**.
7. Use the Split Form tool to create a split form based on the qryLessonsByTutor query, and then make the following changes to the form in Layout view.
   a. Reduce the widths of all seven text boxes to a reasonable size.
   b. Remove the SessionType, Length, and Cost controls and their labels from the stacked layout, move these six controls to the right and then to the top of the form, and then anchor them to the top right.
   c. Select the Cost control and its label, and then anchor them to the bottom right.
   d. Remove the Contract Date control and its label from the stacked layout, and then anchor the pair of controls to the bottom left.
   e. Change the title to **Lessons by Tutor**, and then save the modified form as **frmLessonsByTutorSplitForm**.
8. Use Figure 6-53 and the following steps to create a custom form named **frmContract** based on the tblContract table.

Figure 6-53 **Tutoring database custom form design**



a. For the StudentID combo box, select the LastName, FirstName, and StudentID fields from the tblStudent table, in order, and sort in ascending order by the LastName field and then by the FirstName field.

b. For the TutorID combo box, select the LastName, FirstName, and TutorID fields from the tblTutor table, in order, and sort in ascending order by the LastName field and then by the FirstName field.

c. Make sure the form's Record Source property is set to tblContract, and then add a combo box in the Form Header section to find ContractID field values.

d. Add a calculated control that displays the total number of hours (length multiplied by sessions). *Hint*: Use the * symbol for multiplication. Set the calculated control's Tab Stop property to No and format the values with one decimal place.

e. Add a line in the Form Header section, add a second line below it, and then add a second pair of lines near the bottom of the Detail section. Set the line thickness of all lines to the line setting with the ScreenTip 1 pt.

f. Use the Label tool to add your name below the pair of lines at the bottom of the Detail section.

g. For the labels in the Detail section, except for the Total Hours label and the label displaying your name, use the Red font color (row 7, column 2 in the Standard Colors palette).

h. For the title and Contract ID label, use the Dark Red font color (row 7, column 1 in the Standard Colors palette).

i. For the calculated control and its label, bold the font.

j. For the background fill color of the sections, the calculated control, and the Contract ID combo box, use the Medium Gray color (row 1, column 3 in the Standard Colors palette).

k. Make sure the tab order is top-to-bottom, left-to-right for the main form field value boxes.

9. Make a backup copy of the database, compact and repair the database, and then close the database.

CREATE

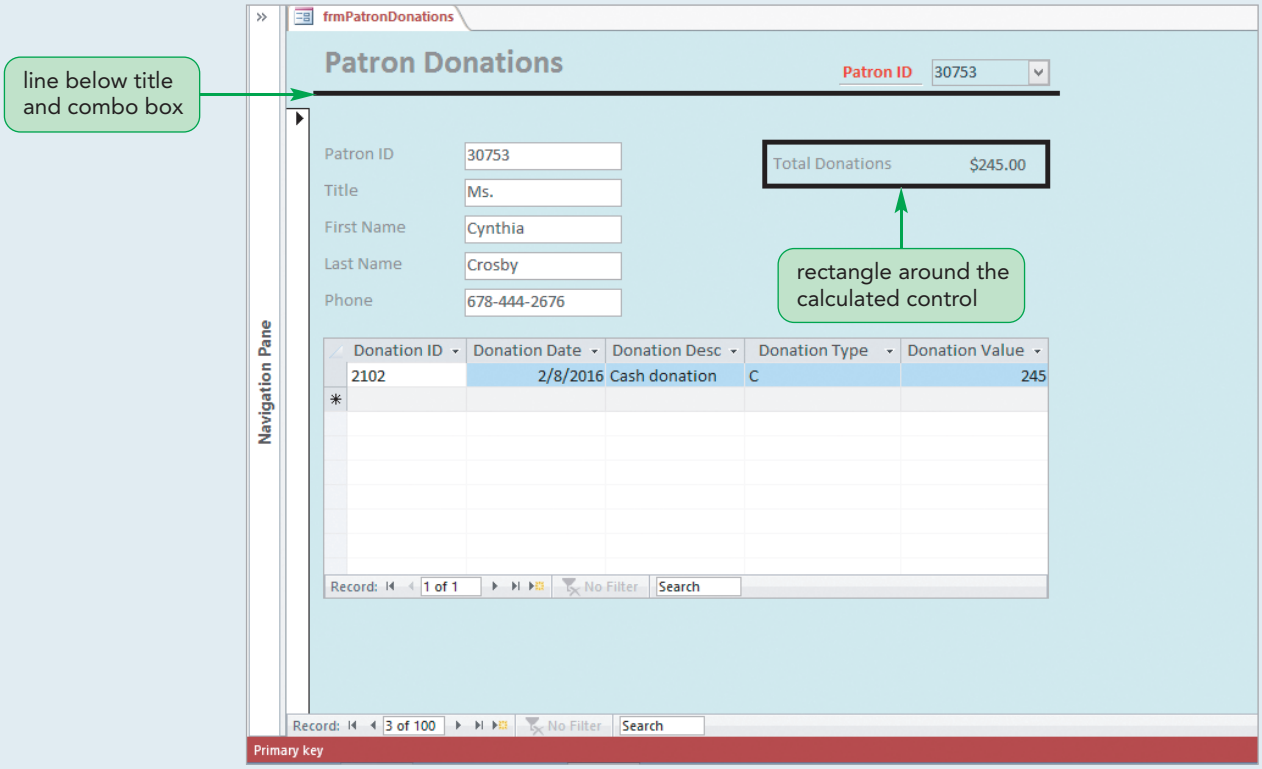
Case Problem 3

Data File needed for this Case Problem: Rosemary.accdb (*cont. from Tutorial 5*)

Rosemary Animal Shelter Ryan Lang asks you to create several forms, including a custom form for the Rosemary Animal Shelter database so that he can better track donations for the animal shelter. Complete the following steps:

1. Open the **Rosemary** database you worked with in Tutorial 5.
2. Use the Documenter to document the tblPatron table. Select all table options; use the Names, Data Types, and Sizes option for fields; and use the Names and Fields option for indexes. Print the report produced by the Documenter.
3. Use the Multiple Items tool to create a form based on the qryPatronPhoneList query, change the title to **Patron Phone List**, and then save the form as **frmPatronPhoneListMultipleItems**.
4. Use the Split Form tool to create a split form based on the tblPatron table, and then make the following changes to the form in Layout view.
   a. Reduce the widths of all five text boxes to a reasonable size.
   b. Remove the FirstName, LastName, and Phone controls and their labels from the stacked layout, move them to the top right, and then anchor them to the top right.
   c. Change the title to **Patron**, and then save the modified form as **frmPatronSplitForm**.
5. Use Figure 6-54 and the following steps to create a custom form named **frmPatronDonations** based on the tblPatron and tblDonation tables.

Figure 6-54 **Rosemary database custom form design**



a. Add the title in the Form Header section.
b. Make sure the form's Record Source property is set to tblPatron, and then add a combo box in the Form Header section to find PatronID field values. In the wizard steps, select the PatronID field. Format the label using the Red font (row 7, column 2 in the Standard Colors palette), bold, and the Chiseled special effect.
c. Add a subform based on the tblDonation table, name the subform **frmPatronDonationSubform**, delete the subform label, and resize the columns in the subform to their best fit and resize and position the subform.
d. Add a calculated control that displays the total of the DonationValue field displayed in the subform with the Currency format. Set the calculated control's Tab Stop property to No, and the Border Style property to Transparent.
e. Add a line in the Form Header section, and add a rectangle around the calculated control and its label, setting the line thickness of both controls to the line style with the ScreenTip 3 pt. Set the rectangle color to Black (row 1, column 2 in the Standard Colors section) using the Shape Outline button in the Control Formatting group on the FORMAT tab.
f. Use the background color Aqua Blue 2 (row 3, column 9 in the Standard Colors palette) for the sections, the calculated control, and the Patron ID combo box.
g. Make sure the tab order is top-to-bottom for the main form text boxes.

6. Make a backup copy of the database, compact and repair the database, and then close the database.

CREATE

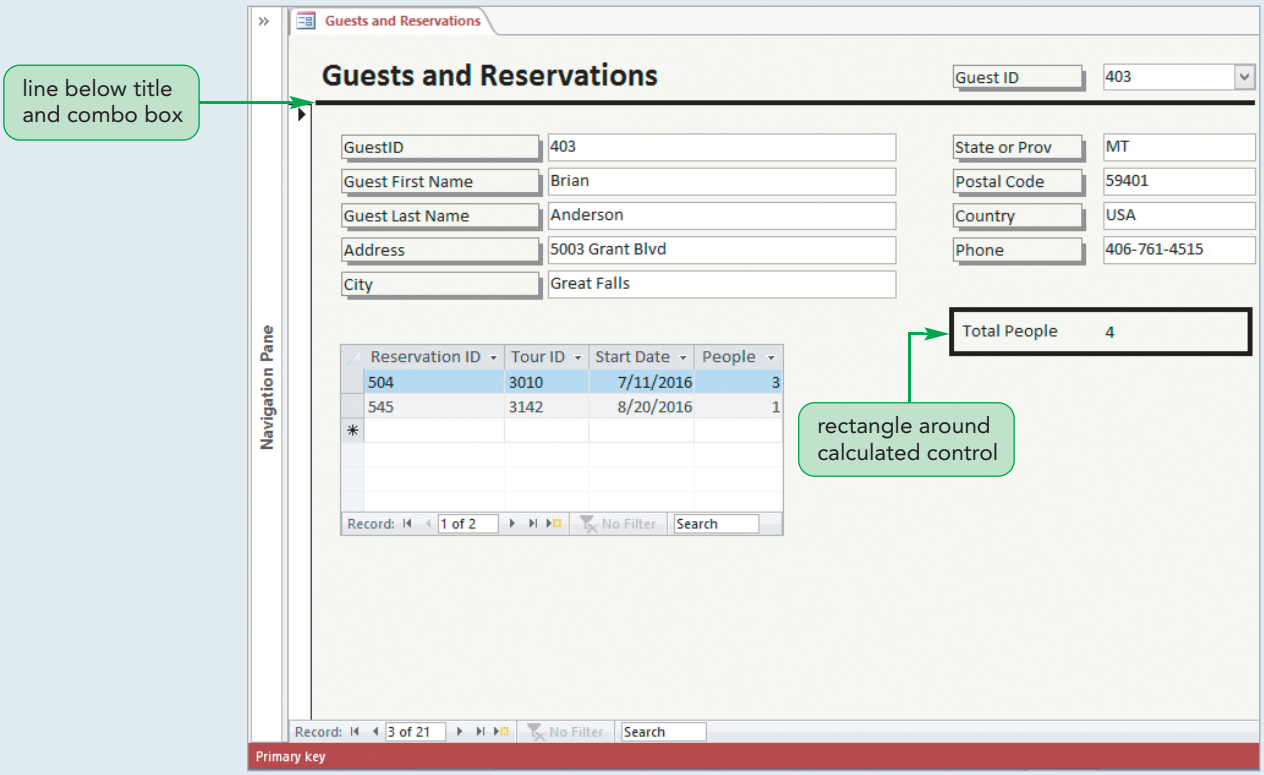
Case Problem 4

Data File needed for this Case Problem: Ecotour.accdb (*cont. from Tutorial 5*)

Stanley EcoTours Janice and Bill Stanley want you to create several forms, including a custom form that displays and updates guest and reservation data in the Stanley database. Complete the following steps:

1. Open the **Ecotour** database you worked with in Tutorial 5.
2. Remove the lookup feature from the TourID field in the **tblReservation** table. Size the TourID field and save and close the table.
3. Edit the relationship between the primary tblTour and related tblReservation tables to enforce referential integrity and to cascade update related fields. Create the relationship report, and then save the report as **rptRelationshipsForVacation.pdf**, without exporting steps.
4. Use the Documenter to document the qrySelectedStates query. Select all query options; use the Names, Data Types, and Sizes option for fields; and use the Nothing option for indexes. Print the report produced by the Documenter.
5. Use the Datasheet tool to create a form based on the qryGuestLastNameG query, and then save the form as **frmGuestLastNameG**.
6. Create a custom form based on the qryHikingOrJeepSelectedTours query. Display all fields in the form. Use your own design for the form, but use the title **Hiking Or Jeep Selected Tours** in the Form Header section, and use the Label tool to add your name to the Form Header section. Save the form as **frmHikingOrJeepSelectedTours**.
7. Use Figure 6-55 and the following steps to create a custom form named **frmGuestsWithReservations** based on the tblGuest and tblReservation tables.

Figure 6-55 Ecotour database custom form design



a. Add the title in the Form Header section and apply bold formatting.
b. Add the fields from the tblGuest table. Size the associated labels so they're all the same length. Size the text boxes in variable lengths to fit a reasonable amount of data, as shown in Figure 6-55.
c. Make sure the form's Record Source property is set to tblGuest, and then add a combo box in the Form Header section to find GuestID field values.
d. Add a subform based on the tblReservation table, name the subform **frmGuestsWithReservationsSubform**, delete the subform label, resize the columns in the subform to their best fit, and then resize and position the subform.
e. Add a calculated control that displays the total of the People field displayed in the subform. Set the calculated control's Tab Stop property to No, and set the calculated control's Border Style property to Transparent.
f. Add a line in the Form Header section, and add a rectangle around the calculated control and its label, setting the line thickness of both controls to the line style with the ScreenTip 3 pt. Set the rectangle color to Black (row 1, column 2 in the Standard Colors section) using the Shape Outline button in the Control Formatting group on the Format tab.
g. Use black font color for all controls, including the controls in the subform.
h. Use the "Green 1" fill color (row 2, column 7 in the Standard Colors palette) for the sections and the calculated control.
i. Use the Shadowed special effect for the labels in the Detail section, except for the calculated control label, and the Form Header section, except for the title.
j. Make sure the tab order is top-to-bottom and left-to-right for the main form text boxes.

8. Make a backup copy of the database, compact and repair the database, and then close the database.

TUTORIAL 7

Creating Custom Reports

Creating Custom Reports for Chatham Community Health Services

ACCESS

OBJECTIVES

Session 7.1
- View, filter, and copy report information in Report view
- Modify a report in Layout view
- Modify a report in Design view

Session 7.2
- Design and create a custom report
- Sort and group data in a report
- Add, move, resize, and align controls in a report
- Add lines to a report
- Hide duplicate values in a report

Session 7.3
- Add the date, page numbers, and title to a report
- Create and modify mailing labels

Case | *Chatham Community Health Services*

At a recent staff meeting, Kelly Schwarz, the office manager, indicated that she would like to make some changes to an existing report in the database. She also requested a new report that she can use to produce a printed list of all invoices for all visits.

In this tutorial, you will modify an existing report and create the new report for Kelly. In modifying and building these reports, you will use many Access report customization features, including grouping data, calculating totals, and adding lines to separate report sections. These features will enhance Kelly's reports and make them easier to read and use.

STARTING DATA FILES

Access2

Tutorial
Clinic.accdb (*cont.*)

Review
Supplier.accdb (*cont.*)

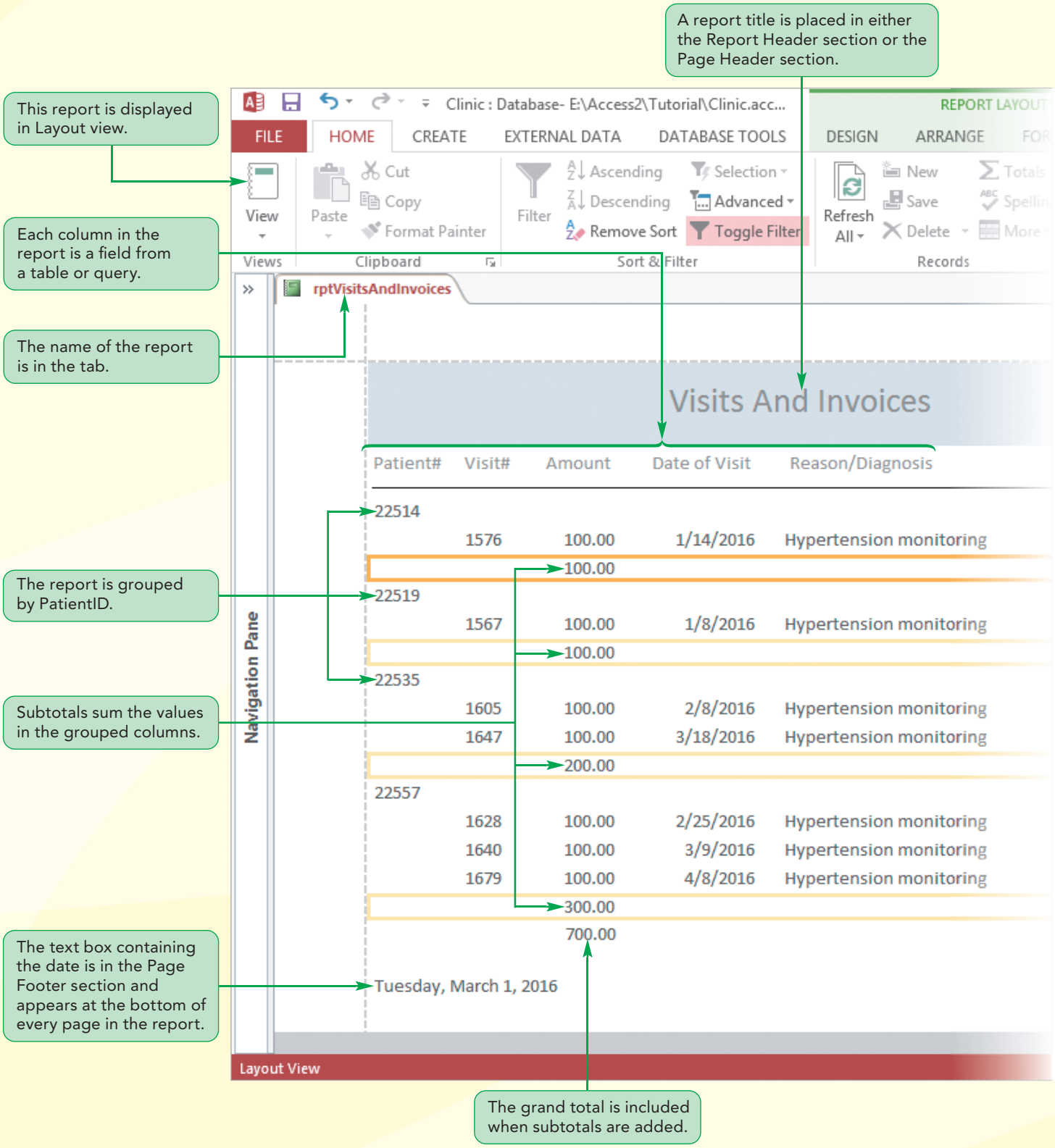
Case1
Task.accdb (*cont.*)

Case2
Tutoring.accdb (*cont.*)

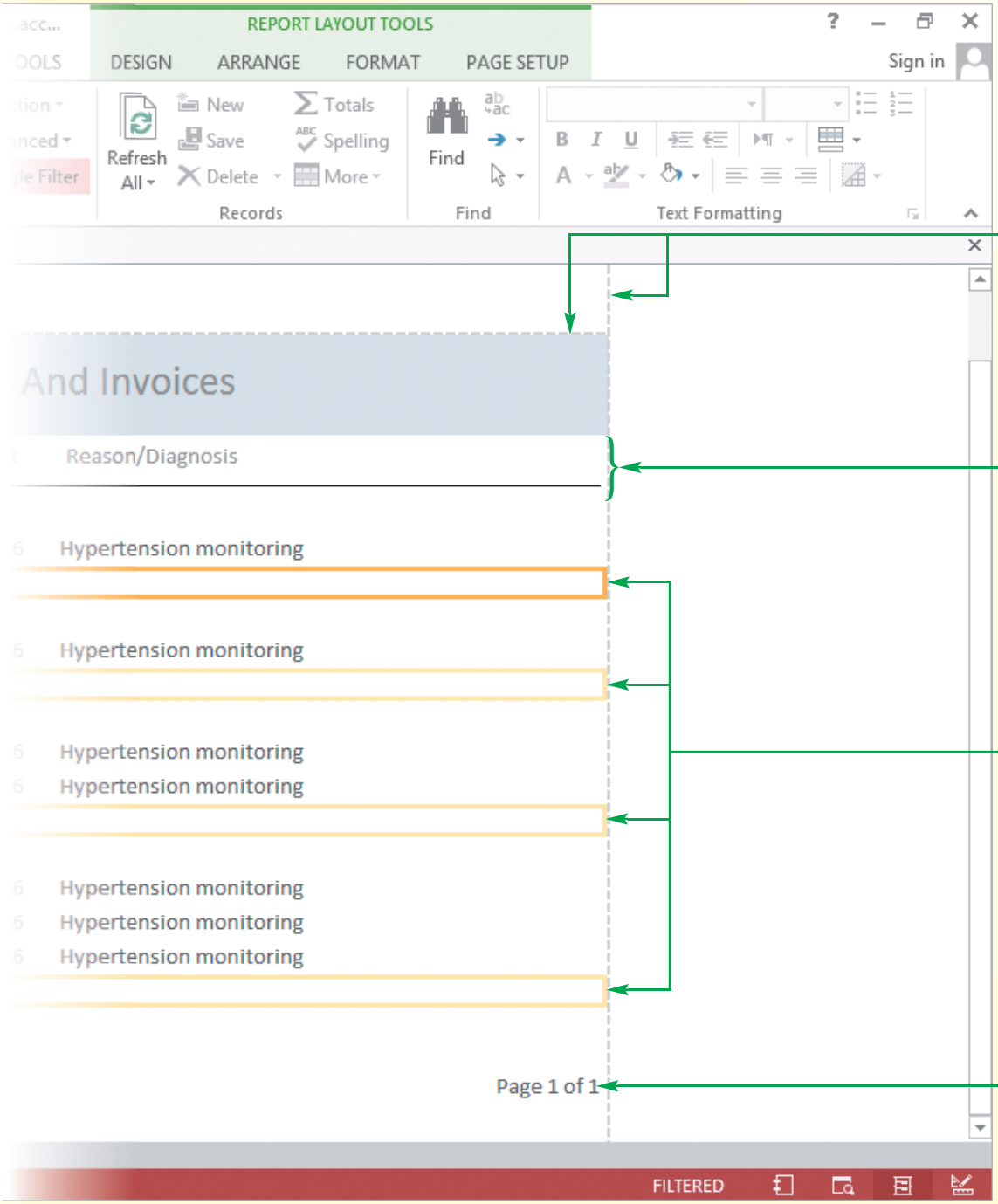
Case3
Rosemary.accdb (*cont.*)

Case4
Ecotour.accdb (*cont.*)

Session 7.1 Visual Overview:



Report Sections



The margin guides show the edges of the margins, which can help you to position the elements inside the page margins.

The column headings and line are in the Page Header section and will appear at the top of every page in the report.

When you select multiple objects, you can resize or format them together.

The text box containing the page number is in the Page Footer section and appears at the bottom of every page in the report.

Customizing Existing Reports

A report is a formatted output (screen display or printout) of the contents of one or more tables in a database. Although you can format and print data using datasheets, queries, and forms, reports offer greater flexibility and provide a more professional, readable appearance. For example, a billing statement created using a datasheet would not look professional, but the staff at Chatham Community Health Services can easily create professional-looking billing statements from the database using reports.

Before Raj Gupta joined Chatham Community Health Services to enhance the Clinic database, Kelly Schwarz and her staff created two reports. Kelly used the Report tool to create the rptVisitsAndInvoices report and the Report Wizard to create the rptPatientsAndVisits report. One of Kelly's staff members changed the rptPatientsAndVisits report in Layout view by modifying the title, moving and resizing fields, changing the font color of field names, and inserting a picture. The rptPatientsAndVisits report is an example of a custom report. When you modify a report created by the Report tool or the Report Wizard in Layout view or in Design view, or when you create a report from scratch in Layout view or in Design view, you produce a **custom report**. You need to produce a custom report whenever the Report tool or the Report Wizard cannot automatically create the specific report you need, or when you need to fine-tune an existing report to fix formatting problems or to add controls and special features.

The rptVisitsAndInvoices report is included in the Clinic database. Kelly asks Raj to review the rptVisitsAndInvoices report and make improvements to it so it's more user friendly.

Viewing a Report in Report View

You can view reports on screen in Print Preview, Layout view, Design view, and Report view. You've already viewed and worked with reports in Print Preview and Layout view. Making modifications to reports in Design view is similar to making changes to forms in Design view. **Report view** provides an interactive view of a report. You can use Report view to view the contents of a report and to apply a filter to its data. You can also copy selected portions of the report to the Clipboard and use the selected data in another program.

INSIGHT

Choosing the View to Use for a Report

You can view a report on screen using Report view, Print Preview, Layout view, or Design view. Which view you choose depends on what you intend to do with the report and its data.

- Use Report view when you want to filter the report data before printing a report, or when you want to copy a selected portion of a report.
- Use Print Preview when you want to see what a report will look like when it is printed. Print Preview is the only view in which you can navigate the pages of a report, zoom in or out, or view a **multiple-column report**, which is a report that prints the same collection of field values in two or more sets across the page.
- Use Layout view when you want to modify a report while seeing actual report data.
- Use Design view when you want to fine-tune a report's design, or when you want to add lines, rectangles, and other controls that are available only in Design view.

You'll open the rptVisitsAndInvoices report in Report view and you'll interact with the report in this view.

To interact with the rptVisitsAndInvoices report in Report view:

1. Start Access, and then open the **Clinic** database you worked with in Tutorials 5 and 6.

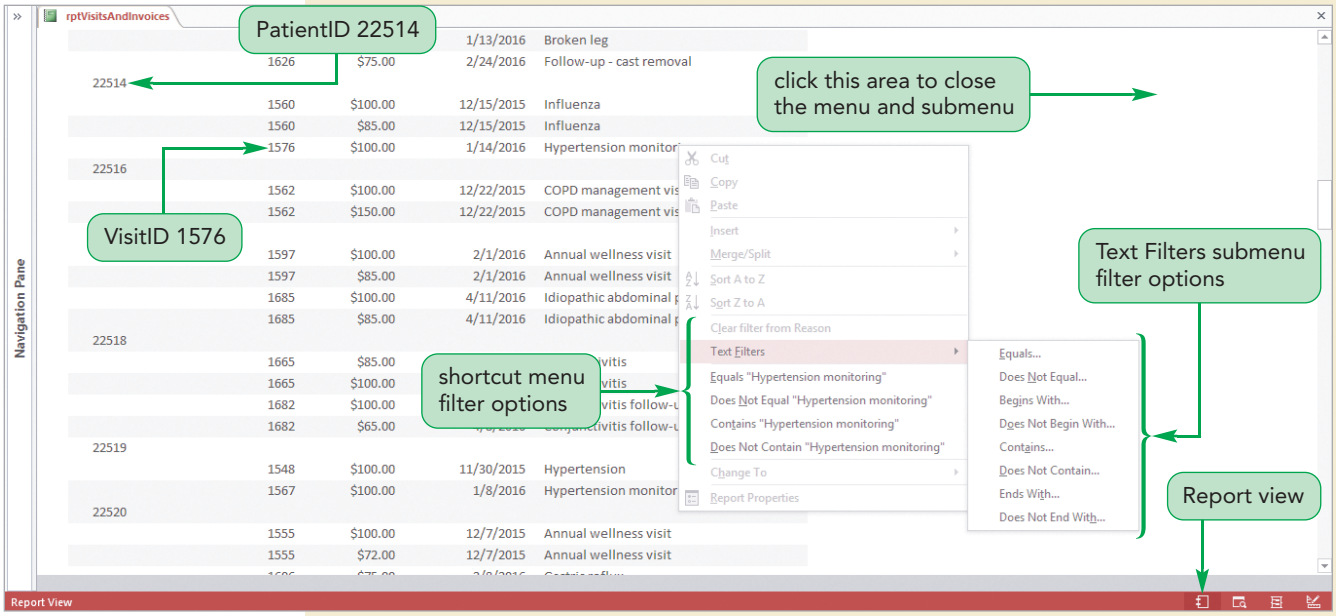
   Trouble? If the Security Warning is displayed below the Ribbon, either the Clinic database is not located in the Access2 ▸ Tutorial folder or you did not designate that folder as a trusted folder. Make sure you opened the database in the Access2 ▸ Tutorial folder, and make sure that it's designated as a trusted folder.

2. Open the Navigation Pane, scroll down the Navigation Pane (if necessary), double-click **rptVisitsAndInvoices**, and then close the Navigation Pane. The rptVisitsAndInvoices report opens in Report view.

   In Report view, you can view the live version of the report prior to printing it, just as you can do in Print Preview. Unlike Print Preview, Report view lets you apply filters to the report before printing it. You'll apply a text filter to the rptVisitsAndInvoices report.

3. Scroll down to Patient ID 22514: Visit ID 1576, right-click **Hypertension monitoring** in the Reason column to open the shortcut menu, and then point to **Text Filters**. A submenu of filter options for the Text field opens. See Figure 7-1.

Figure 7-1 Filter options for a Text field in Report view



Trouble? Your Text Filters submenu may open to the left of the shortcut menu when you click the right side of the text in the Reason column. This will not cause a problem.

The filter options that appear on the shortcut menu depend on the selected field's data type and the selected value. Because you clicked the Reason field value without selecting a portion of the value, the shortcut menu displays filter options—various conditions using the value "Hypertension monitoring"—for the entire Reason field value. You'll close the menus and select a portion of the Reason column value to explore a different way of filtering the report.

4. Click a blank area in the report (see Figure 7-1) to close the menus. In the Patient ID 22514 for Visit ID 1576, double-click **monitoring** in the Reason column to select it and then right-click **monitoring**. The filter options now apply to the selected text.

   Notice that the filter options on the shortcut menu include the options such as "Ends With" and "Does Not End With" because the text you selected is at the end of the field value in the Reason column.

5. Click **Contains "monitoring"** on the shortcut menu. The report content changes to display only those visits that contain the word "monitoring" anywhere in the Reason column.

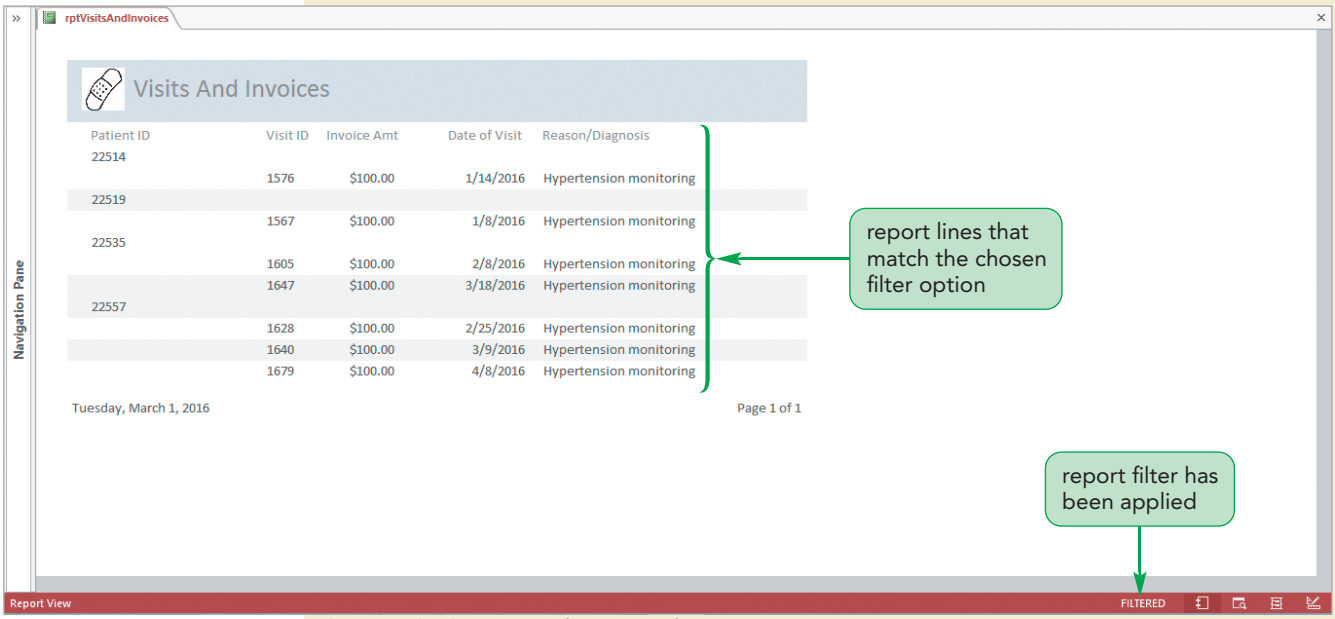
6. Double-click the word **Hypertension** in the Reason column for the report detail line for Visit ID 1576 to select it, right-click **Hypertension** to open the shortcut menu, and then point to **Text Filters**. The filter options now include the "Begins With" and "Does Not Begin With" options because the text you selected is at the beginning of the field value in the Reason column.

   Kelly wants to view only those visits that contain the phrase "Hypertension monitoring" in the Reason column.

7. Click a blank area in the report to close the menus, and then click a blank area again to deselect the selected text.

8. In the report detail line for Visit ID 1576, right-click **Hypertension monitoring** in the Reason column, and then click **Equals "Hypertension monitoring"** on the shortcut menu. Only the seven visits that contain the selected phrase are displayed in the report. See Figure 7-2.

Figure 7-2 **Filter applied to the report in Report View**



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You can print the filtered report, or you can select the entire filtered report or a portion of it. Then you can copy the selection to the Clipboard and paste it into another file, such as a Word document or an Excel spreadsheet. Next, you'll copy the entire filtered report to the Clipboard.

Kelly would like you to create a Word document that contains the records from the Hypertension Monitoring filter so she can provide this information to the nurse who will follow up with these patients.

TIP

To select a portion of the report, click to the left of the top of the selection and drag down to the bottom of the selection.

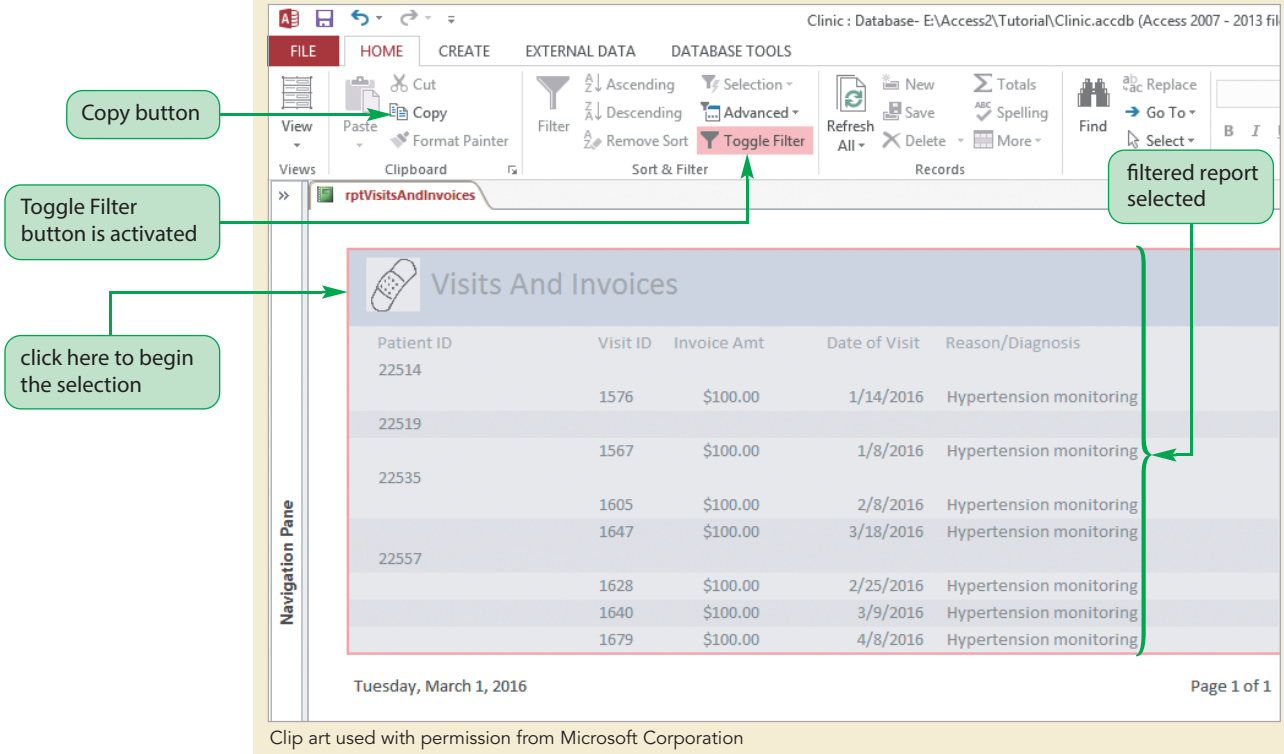
To create a Word document that contains filtered records:

1. Click to the left of the title graphic at the top of the report (but don't click in the Navigation Pane), drag down to the end of the last record in the report, release the mouse button to select the report title, field titles, and all of the records in the report, and then in the Clipboard group on the HOME tab, click the **Copy** button. Alternatively, you can use the Ctrl + A key combination only if you want to select all items in the report. In this case, you're selecting only the titles and records. See Figure 7-3.

   Trouble? If you selected nothing, you clicked above the title graphic. Make sure the mouse pointer is to the left of the title graphic, but not above it, and then repeat Step 1.

   Trouble? If you selected only a portion of the report, press the Esc key to deselect your selection, and then repeat Step 9.

Figure 7-3 **After selecting the filtered report in Report view**



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If you needed to copy the selection to the Clipboard, you would click the Copy button (see Figure 7-3). You'll copy this report data into a Word document.

2. Open Word, click **Blank document** (if necessary), and then on the HOME tab in the Clipboard group, click the **Paste** button to paste the report data.
3. Save the Word document with the filename **HypertensionMonitoring.docx** in the Access2 ▸ Tutorial folder, and then close Word.
4. In Access, on the HOME tab in the Sort & Filter group, click the **Toggle Filter** button. Access removes the filter.

Kelly wants you to modify the Reason column in the rptVisitsAndInvoices report so that all field values are fully displayed on one line, while decreasing the width of other columns and adjusting the page margins. She also wants you to rename some of the column headings, format the InvoiceAmt field values using the Standard format, resize the column headings, delete the picture from the Report Header section, remove the alternate row color from the detail and group header lines, and add a grand total of the InvoiceAmt field values. These changes will make the report more useful for Kelly.

PROSKILLS

Written Communication: Enhancing Reports Created by the Report Tool and the Report Wizard

Creating a report using the Report tool or the Report Wizard can save time, but you should review the report to determine if you need to make any of the following types of common enhancements and corrections:

- Change the report title from the report object name (with an rpt prefix and no spaces) to one that has meaning to the users.
- Reduce the widths of the date and page number controls, and move the controls so that they are not printed on a separate page.
- Review the report in Print Preview and, if the report displays excess pages, adjust the page margins and the placement of controls.
- Verify that all controls are large enough to fully display their values.
- Use page margins and field widths that display equal margins to the left and right of the data.
- Use a layout for the fields that distributes the data in a balanced way across the document, and use the same spacing between all columns of data.
- The report and page titles can be centered on the page, but do not center the report data. Instead, use spacing between the columns and reasonable column widths to make the best use of the width of the page, extending the data from the left margin to the right margin.

Some of the report adjustments you need to make are subtle ones, so you need to carefully review all report controls to ensure the report is completely readable and usable for those using the report.

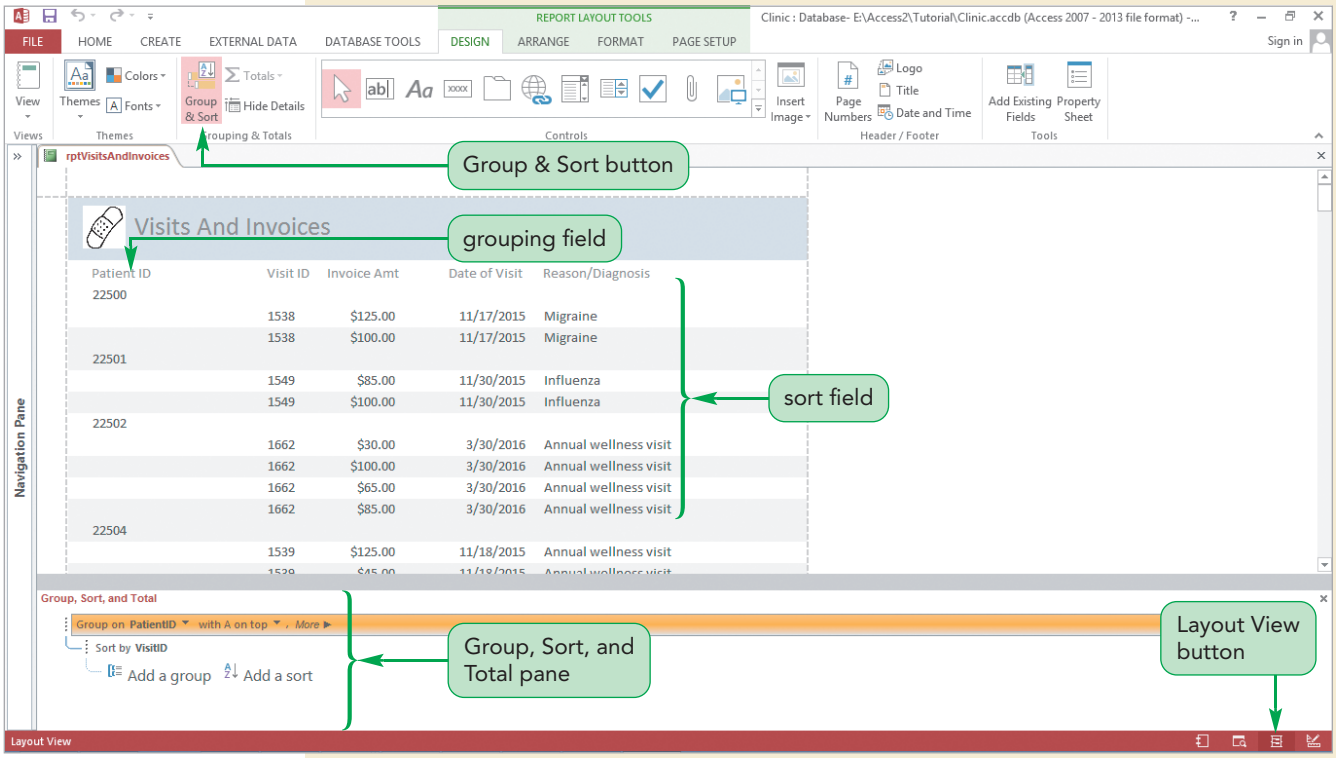
Modifying a Report in Layout View

You can make the report changes Kelly wants in Layout view. Modifying a report in Layout view is similar to modifying a form in Layout view.

To view and modify the report in Layout view:

1. On the status bar, click the **Layout View** button, and then scroll to the top of the report (if necessary). See Figure 7-4.

Figure 7-4 **Viewing the report in Layout view**



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Trouble? If the Group, Sort, and Total pane is not open at the bottom of the screen, on the DESIGN tab in the Grouping & Totals group, click the Group & Sort button.

TIP

You can click the Group & Sort button in the Grouping & Totals group to open and close the Group, Sort, and Total pane.

The rptVisitsAndInvoices report has a grouping field (the PatientID field) and a sort field (the VisitID field). At the bottom of the screen, the **Group, Sort, and Total pane** provides you with the options to modify the report's grouping fields and sort fields and the report calculations for the groups. A **grouping field** is a report sort field that includes a Group Header section before a group of records having the same sort field value and a Group Footer section after the group of records. A Group Header section usually displays the group name and the sort field value for the group. A Group Footer section usually displays subtotals or counts for the records in that group. The rptVisitsAndInvoices report's grouping field is the PatientID field, which is displayed in a Group Header section that precedes the set of visits for the Patient; the grouping field does not have a Group Footer section. The VisitID field is a secondary sort key, as shown in the Group, Sort, and Total pane.

Because you don't need to change the grouping or sort fields for the report, you'll close the pane and then make Sarah's modifications to the report.

2. On the DESIGN tab, in the Grouping & Totals group, click the **Group & Sort** button to close the Group, Sort, and Total pane.

First, you'll change the column headings for the first three columns to Patient#, Visit#, and Amount. Kelly prefers to see all the detail data on one line, even when it means abbreviating column headings for columns whose headings are wider than the data. After reducing the column headings, you'll reduce the column widths, freeing up space on the detail lines to widen the Reason column.

3. Double-click the **PatientID** column heading to change to editing mode, change it to **Patient#**, and then press the **Enter** key.
4. Repeat Step 3 to change the second column heading to **Visit#** and the third column heading to **Amount**.

   Next, you'll change the format of the field values in the Amount column to Standard.
5. Right-click any value in the **Amount** column to open the shortcut menu, if necessary click **Properties** to open the Property Sheet, set the Format property to **Standard**, and then close the Property Sheet. The Standard format adds comma separators and two decimal places.

   Now you'll set the margins to make better use of the page width.
6. Click the **PAGE SETUP** tab, then in the Page Size section, click the **Margins** button, and then click **Wide**. This sets page margins to 1" on the top and bottom and 0.75" on the left and right.

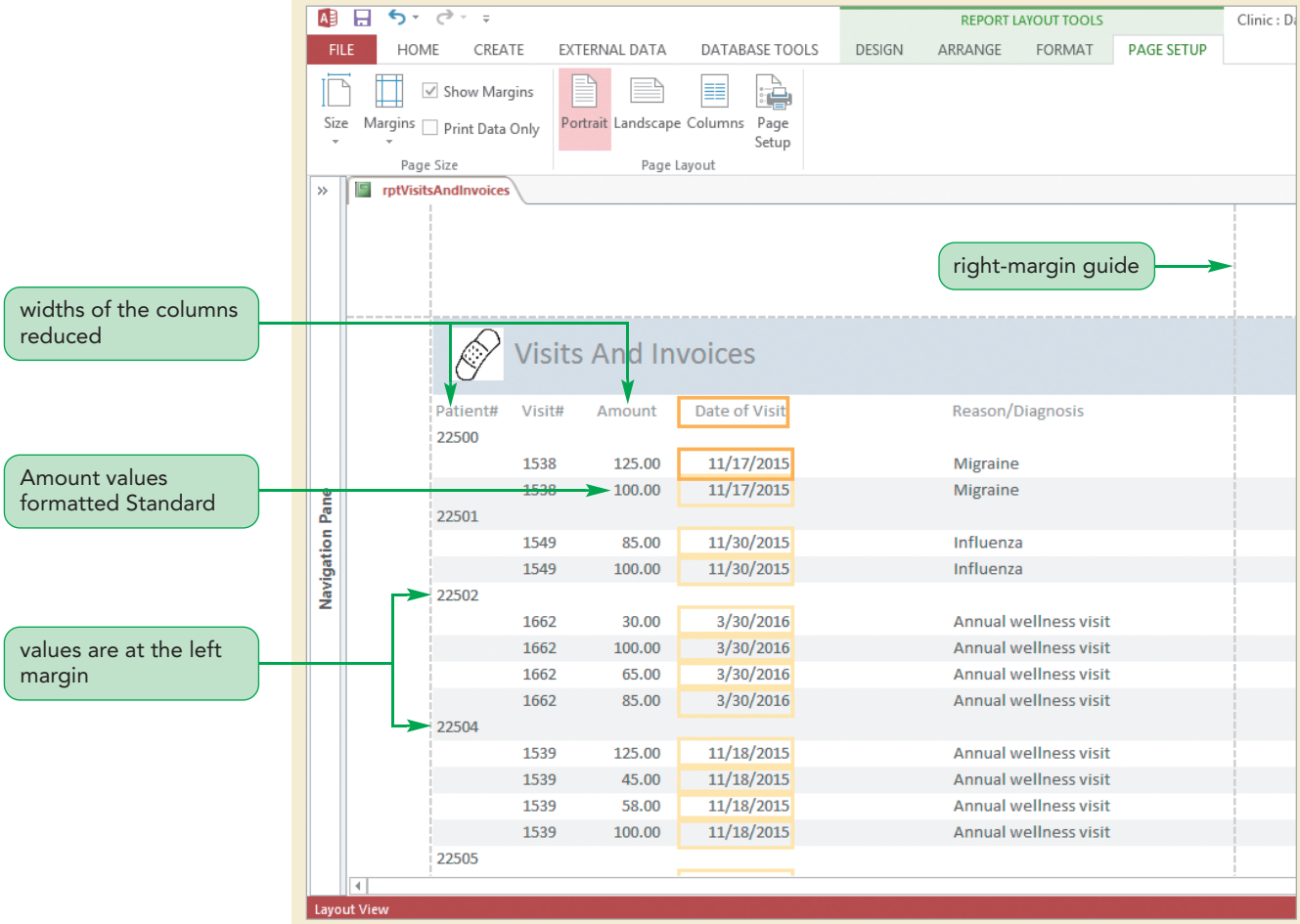
   Sometimes when margins are decreased, some elements appear outside the margins and this causes additional pages to be created in the report. This has occurred with the page number, and you'll fix that later. Now you'll adjust the widths of the columns to fit the data better.
7. Click the **Patient#** column heading, hold the Shift key and click any of the PatientID values, release the Shift key, move the pointer to the left edge of the column heading, and then when the pointer changes to a ↔ shape, drag the left edge to the left-margin guide (dotted line) then drag the right edge to the left to fit the column heading and the PatientID values.

   Now, you'll move the VisitID column to the left, closer to the PatientID column.
8. Click the **Visit#** column heading, hold the Shift key and click any of the VisitID values, release the Shift key, and then move the mouse pointer over the Visit# heading until it changes to a ✥ shape.
9. Drag the mouse pointer to the left, close to the Patient ID column, and then release the mouse button. The column does not appear to move until you release the mouse button.

   Trouble? Access may also scroll to the bottom of the report after you release the mouse button. If that happens, just scroll up to the top of the report and try again if necessary. It may take a couple of attempts to move the column to the right spot.

   Now you'll resize and move the Amount heading and InvoiceAmt values to the left, closer to the VisitID column, and then you'll move the Date of Visit and Reason/Diagnosis columns to the left, closer to the Amount column.
10. Click the **Amount** column heading, hold the Shift key and click any of the InvoiceAmt values, release the Shift key, and then drag the left edge of one of the items in the column to the right to reduce the width of the **Amount** column to fit the data better.
11. With the Amount column heading and the InvoiceAmt values still selected, drag the objects to the left, closer to the Visit# column.
12. Repeat steps 10 and 11 for the Date of Visit column, resizing it from the right edge and moving it to the left. See Figure 7-5.

Figure 7-5 **After resizing columns in Layout view**



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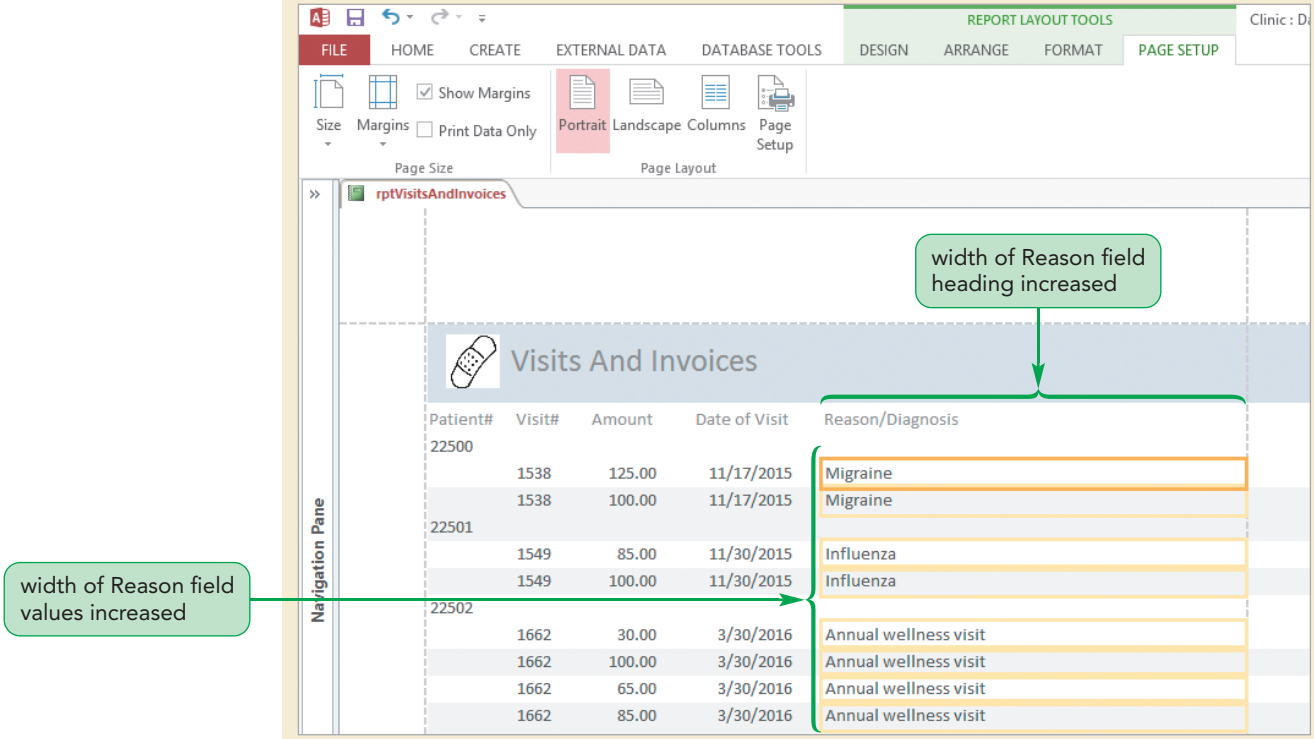
Now, you'll move the Reason field to the left, and size it to fit the data better, aligning it with the page's right-margin.

13. Select the Reason column heading and values, and then move them to the left, closer to the Date of Visit column.

Because the Reason field heading is wider than the Reason column data items, you'll size them separately.

14. Click a blank area of the report to deselect the selected objects, click the **Reason** field heading to select it, drag its right edge to the right-margin guide (dotted line), deselect the Reason field heading, click one of the **Reason field values** to select all of the Reason field values, and then drag one of the right edges to the right-margin guide. See Figure 7-6.

Figure 7-6 **After resizing columns in Layout view**



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Kelly doesn't think the picture at the top of the report is necessary, so you'll delete it and center the report heading. You'll also adjust the width of the page and remove the alternate row color.

To modify the appearance of the report:

1. Scroll to the top of the report, right-click the picture at the top of the report to open the shortcut menu, and then click **Delete** to remove the picture.
2. Click the **Visits And Invoices** title to select it, and then move it to the left-margin guide.
3. Drag the right edge of the title to the right-margin guide to increase the size of the title box to the full width of the page.
4. Click the **FORMAT** tab, and then in the Font group, click the **Center** button to center the title in the title box.

   Kelly finds the alternate row color setting in the group header and detail lines distracting, and asks you to remove this feature.
5. Click to the left of the left-margin guide to the left of the first PatientID value to select the group headers, in the Background group click the **Alternate Row Color** arrow to display the gallery of available colors, and then at the bottom of the gallery, click **No Color**. The alternate row color is removed from the PatientID rows.

You've removed the alternate row color from the PatientID values in the report, and next you'll remove the alternate row color from the detail lines. Because the Alternate Row Color button is now set to "No Color," you can just click the button to remove the color.

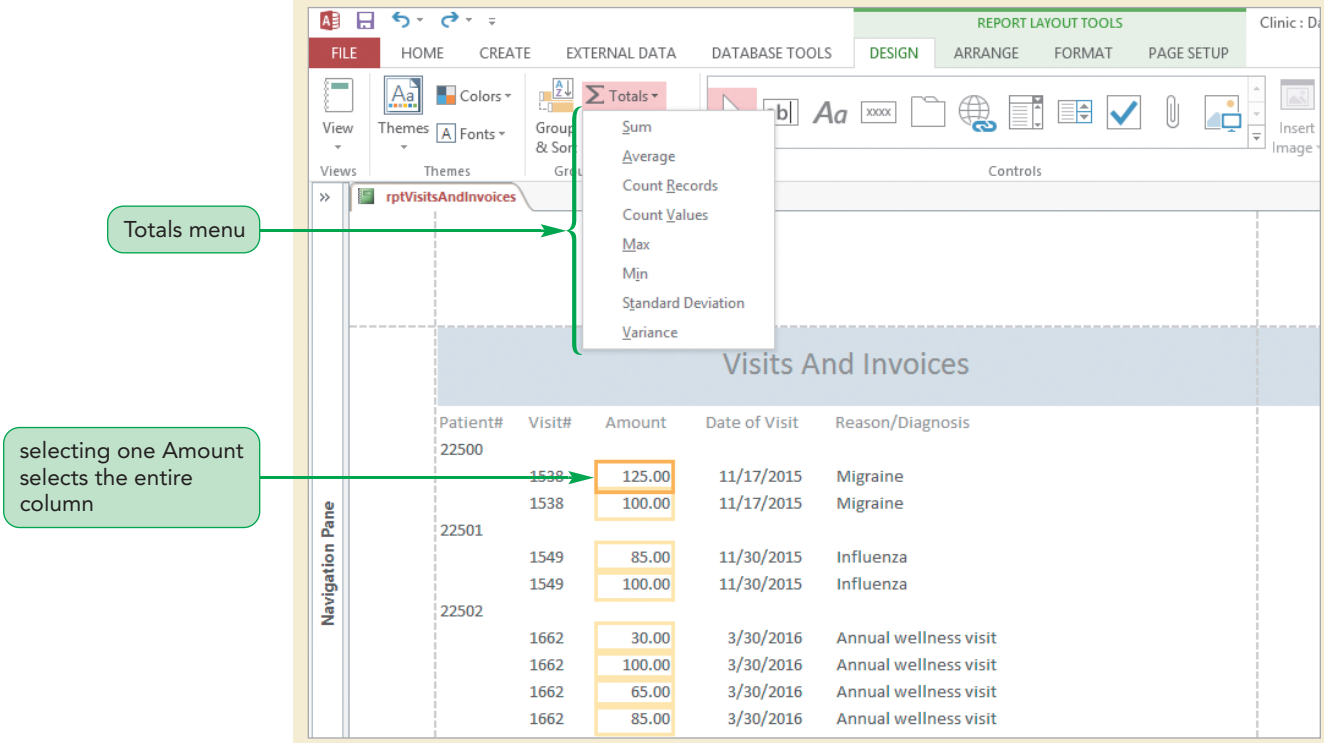
6. Click to the left of the left-margin guide next to the first VisitID in the first Patient record detail lines, and then in the Background group click the **Alternate Row Color** button to remove the alternate row color from the group header lines.

Kelly's last change to the report is to add a grand total of the Amount field values. First, you must select the Amount column or one of the values in the column.

To add a grand total to the report in Layout view:

1. In the detail line for VisitID 1538, click **125.00** in the Amount column, click the **DESIGN tab**, and then in the Grouping & Totals group, click the **Totals** button to display the Totals menu. See Figure 7-7.

Figure 7-7 Displaying options on the Totals menu



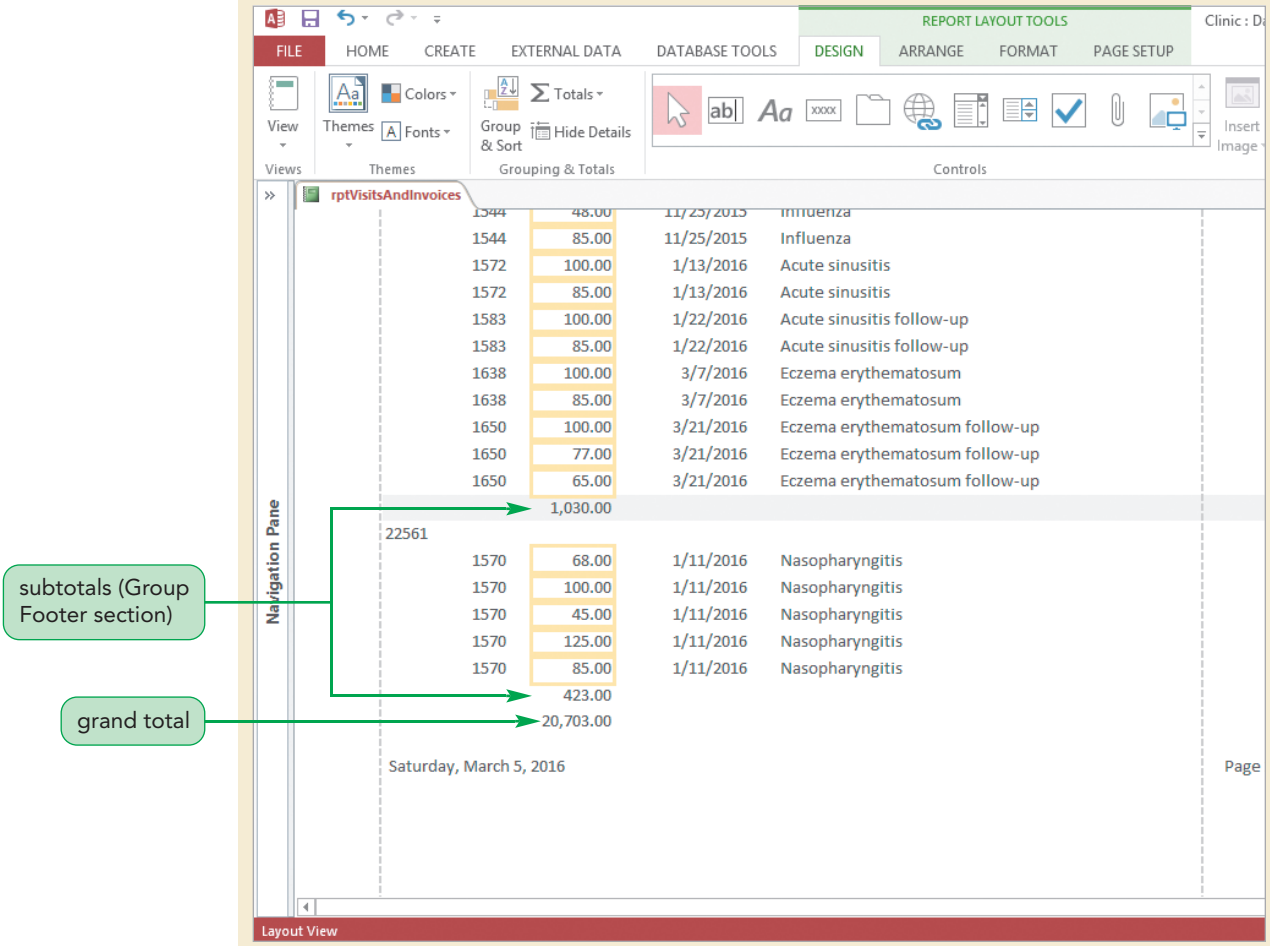
You select one of the eight aggregate functions on the Totals menu to summarize values in the selected column. To calculate and display the grand total visit amount, you'll select the Sum aggregate function.

TIP
A text box displays pound signs when the text box is too narrow to display the full field value.

2. Click **Sum** in the Totals menu, scroll to the bottom of the report, and then if the last text box contains ###### instead of numbers, click the text box to select it, then drag its left edge to the left to increase its width. In addition to the grand total of 20,703.00, subtotals for each group of visits are displayed for each PatientID field value (423.00 for the last patient). See Figure 7-8.

Trouble? If the text box still contains ###### after you resize it, increase the width again until the grand total value of 20,703.00 is visible.

Figure 7-8 **After adding subtotals and a grand total of the Amount field values**



When you select an aggregate function in Layout view, Access adds the results of the function to the end of the report and adds subtotals for each grouping field. Because each Patient has few visits, Kelly asks you to remove the subtotals from the report.

3. Right-click the **423.00** subtotal on the last record to open the shortcut menu, click **Delete** to remove the subtotals, and then scroll to the end of the report. You deleted the subtotals, but the grand total still appears at the end of the report.

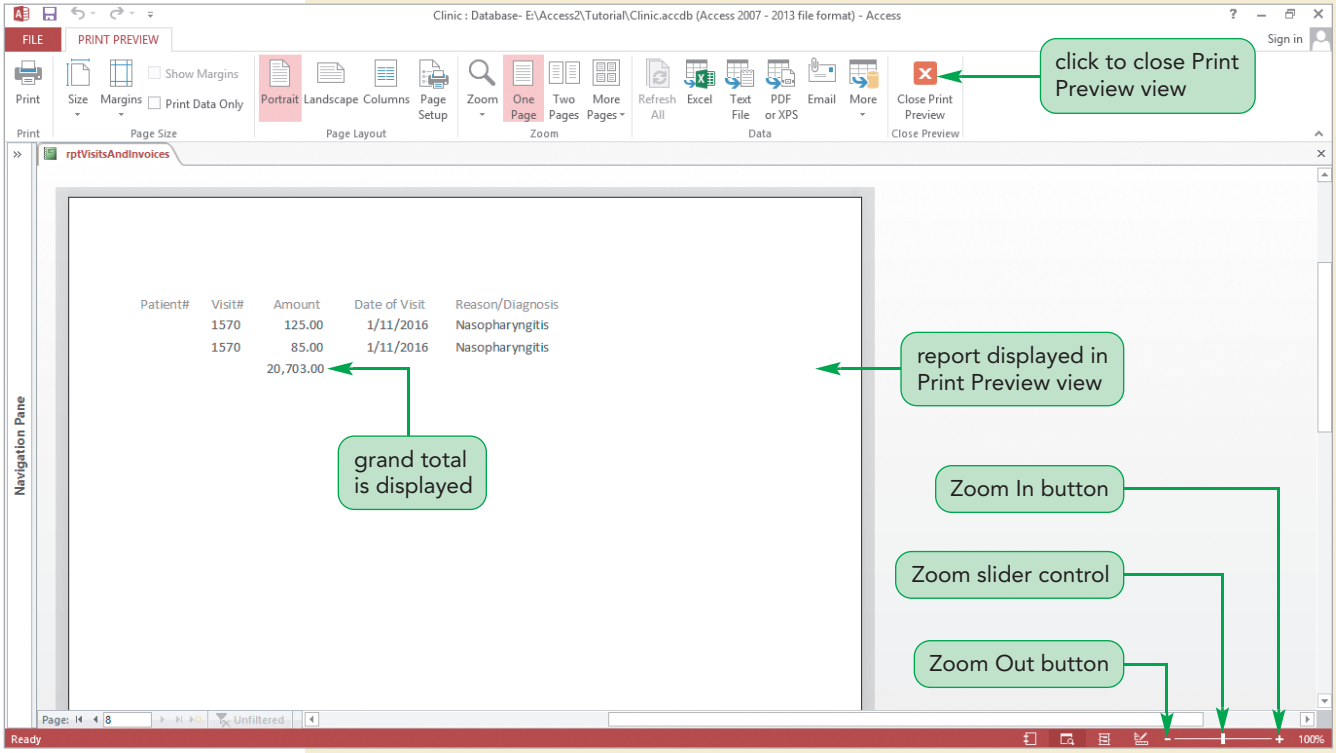
Kelly wants to review the rptVisitsAndInvoices report in Print Preview.

4. Save your report changes, switch to Print Preview, and then use the navigation buttons to page through the report, ending on the second-to-last page of the report.

You can use the Zoom control on the status bar to zoom in or out on the report view in 10% increments (using the Zoom In button or Zoom Out button) or in variable increments (by dragging the Zoom slider control).

5. Click the **Zoom In** button on the status bar to increase the zoom percentage to 110%. See Figure 7-9.

Figure 7-9 **Viewing the rptVisitsAndInvoices report in Print Preview**



Trouble? Depending on the printer you are using, the last page of your report might differ. If so, don't worry. Different printers format reports in different ways, sometimes affecting the total number of pages and the number of records printed per page.

6. Click the **Zoom Out** button on the status bar to decrease the zoom percentage to 100%, and then click the **Close Print Preview** button to close the Print Preview view for the report.

Kelly identifies two additional modifications she wants you to make to the report. The page numbers are outside the right-margin and are causing extra pages in the report. She wants you to move the page number that appears at the bottom of each page. She wants you to move it to the left so that its right edge is aligned with the right edge of Reason text box in the Detail section and the extra pages are no longer created. She also wants you to add a line below the column heading labels.

Modifying a Report in Design View

To make Kelly's changes to the report, you need to move the page number control in the Page Footer section to the left, and then create a line control below the column headings in the Page Header. Although you can make Kelly's modifications in Layout view, you'll make them in Design view so you can more precisely position the line using the grid. Design view for reports is similar to Design view for forms, which you used in Tutorial 6 to customize forms.

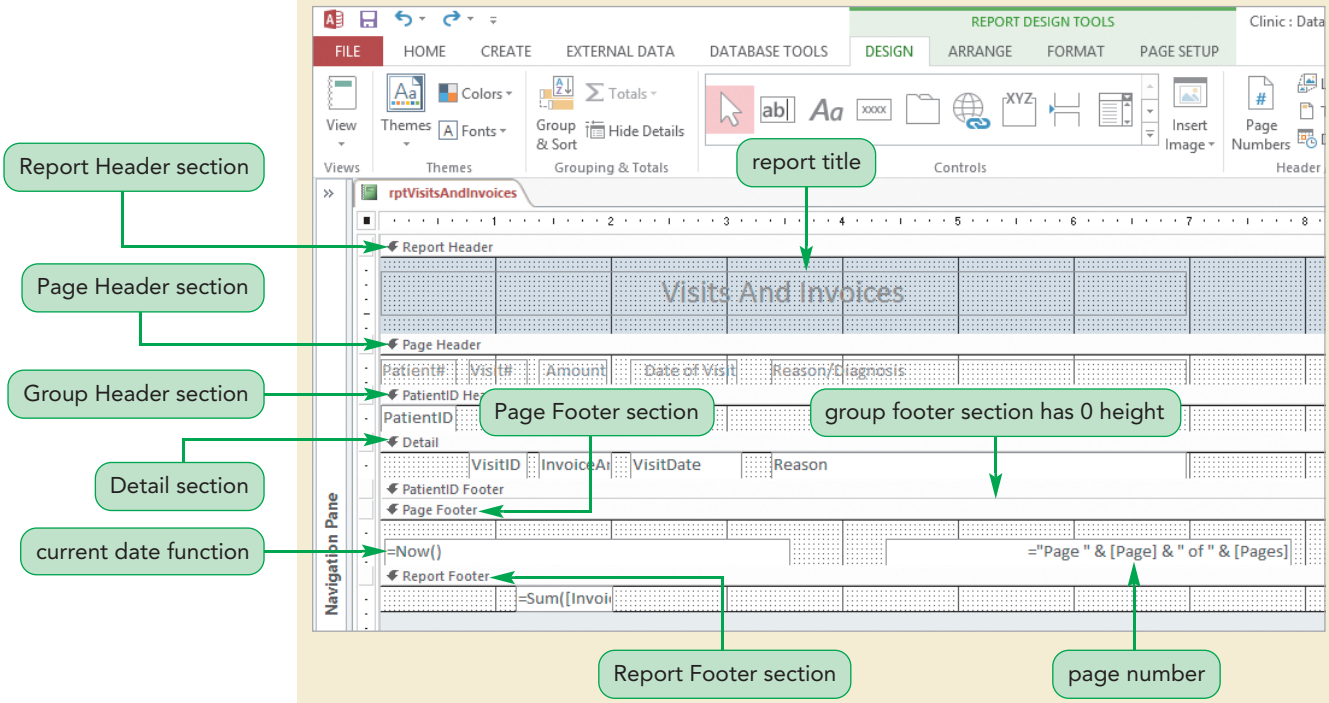
A report in Design view is divided into seven sections:

- **Report Header section**—appears once at the beginning of a report and is used for report titles, company logos, report introductions, dates, visual elements such as lines, and cover pages.
- **Page Header section**—appears at the top of each page of a report and is used for page numbers, column headings, report titles, and report dates.
- **Group Header section**—appears before each group of records that share the same sort field value, and usually displays the group name and the sort field value for the group.
- **Detail section**—contains the bound controls to display the field values for each record in the record source.
- **Group Footer section**—appears after each group of records that share the same sort field value, and usually displays subtotals or counts for the records in that group.
- **Page Footer section**—appears at the bottom of each page of a report and is used for page numbers, brief explanations of symbols or abbreviations, or other information such as a company name.
- **Report Footer section**—appears once at the end of a report and is used for report totals and other summary information.

To view and modify the report in Design view:

1. Switch to Design view. See Figure 7-10.

Figure 7-10 rptVisitsAndInvoices report in Design view



Notice that Design view for a report has most of the same components as Design view for a form. For example, Design view for forms and reports includes horizontal and vertical rulers, grids in each section, and similar buttons in the groups on the DESIGN tab.

Design view for the rptVisitsAndInvoices report displays seven sections: the Report Header section contains the report title; the Page Header section contains the column heading labels; the Group Header section (PatientID Header) contains the PatientID grouping field; the Detail section contains the bound controls to display the field values for each record in the record source (tblVisit); the Group Footer section (PatientID Footer) isn't displayed in the report; the Page Footer section contains the current date and the page number; and the Report Footer section contains the Sum function, which calculates the grand total of the InvoiceAmt field values.

You'll begin on Kelly's changes by moving the page number control in the Page Footer section.

2. Click the **Page Number** text box (the control on the right side of the Page Footer section), and then press the ← key to move the text box to the left until the right edge of the text box is roughly aligned with the right edge of the Reason text box in the Detail section.

   Trouble? If the page number text box overlaps the date text box, don't worry about it. The contents of both will still be displayed.

3. With the Page Number text box still selected, hold down the **Shift** key, click the **Reason** text box, and then release the **Shift** key. Both controls are now selected.

4. Right-click one of the selected controls, point to **Align** on the shortcut menu, and then click **Right**. Both controls are now aligned on their right edges.

   Finally, you'll create the line in the Page Header section.

5. Drag the lower edge of the Page Header section down to increase the height approximately half an inch more. You'll resize this again after the line is created.

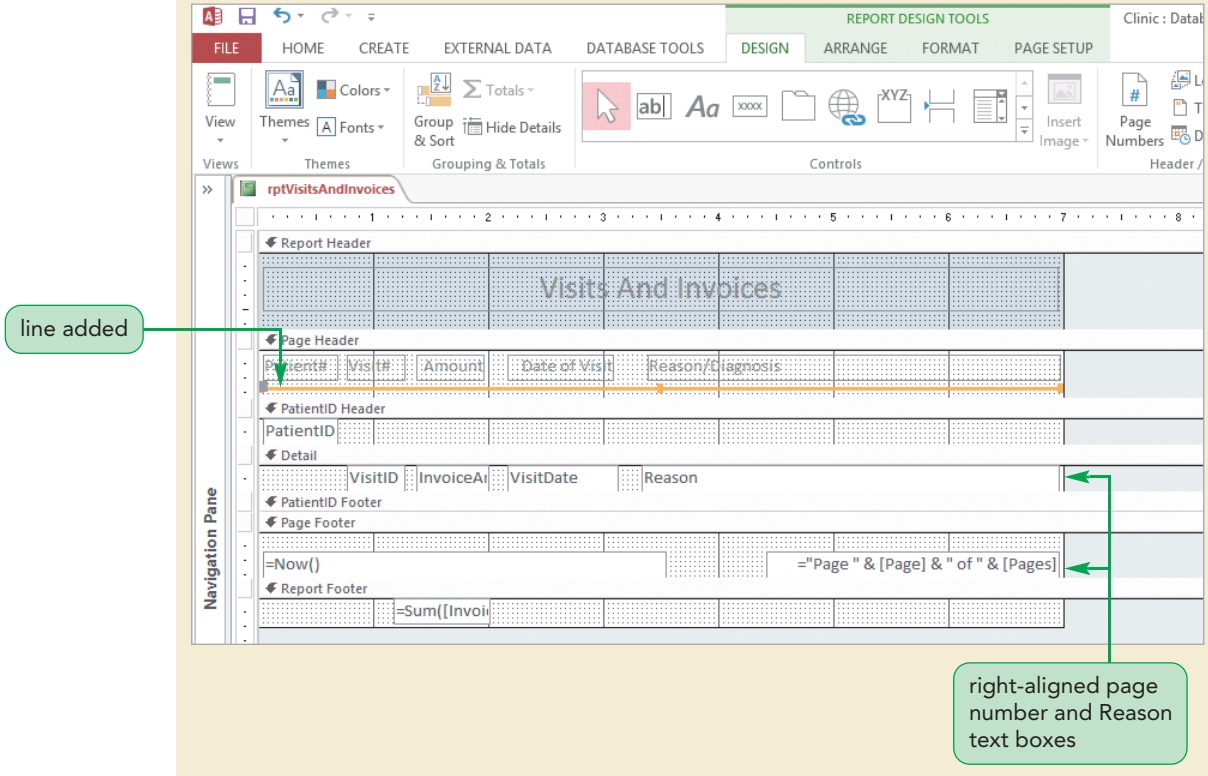
   You'll hold the Shift key down while dragging the mouse pointer to create a horizontal line easily.

6. On the DESIGN tab, in the Controls group, click the **More** button and then click the **Line** button.

7. Under the headings in the Page Header section, position the mouse pointer approximately two grid dots below the page header text boxes, press and hold the **Shift** key, drag to the right to create a horizontal line that will stretch the width of the page and align with the right edge of the Reason text boxes, and then release the Shift key. Holding the Shift key while drawing or extending a line snaps the line to either horizontal or vertical—whichever is nearest to the angle at which the line is drawn.

8. Drag the lower edge of the Page header section up so it is approximately two grid dots below the line. See Figure 7-11.

Figure 7-11 **After modifying the rptVisitsAndInvoices report in Design view**



9. Save your report changes, switch to Print Preview, and then scroll and use the navigation buttons to page through the report, paying particular attention to the placement of the line in the Page Header section and the page number in the Page Footer section. The page number data is right-aligned in the text box, so the text appears flush with the right margin. The data in the Reason field value text boxes are left-aligned, so this data does not appear flush with the right margin.

   Trouble? If you resize a field to position it outside the current margin, the report may widen to accommodate it, triggering a dialog box about the section width being greater than the page width. If this dialog box opens, click OK, manually move form elements as necessary so that no elements extend past 7.5 inches, and then adjust the report width to 7.5 inches.

10. Save and close the report.

11. If you are not continuing on to the next session, close the Clinic database.

Kelly is happy with the changes you've made to the rptVisitsAndInvoices report. In the next session, you create a new custom report for her based on queries instead of tables.

REVIEW

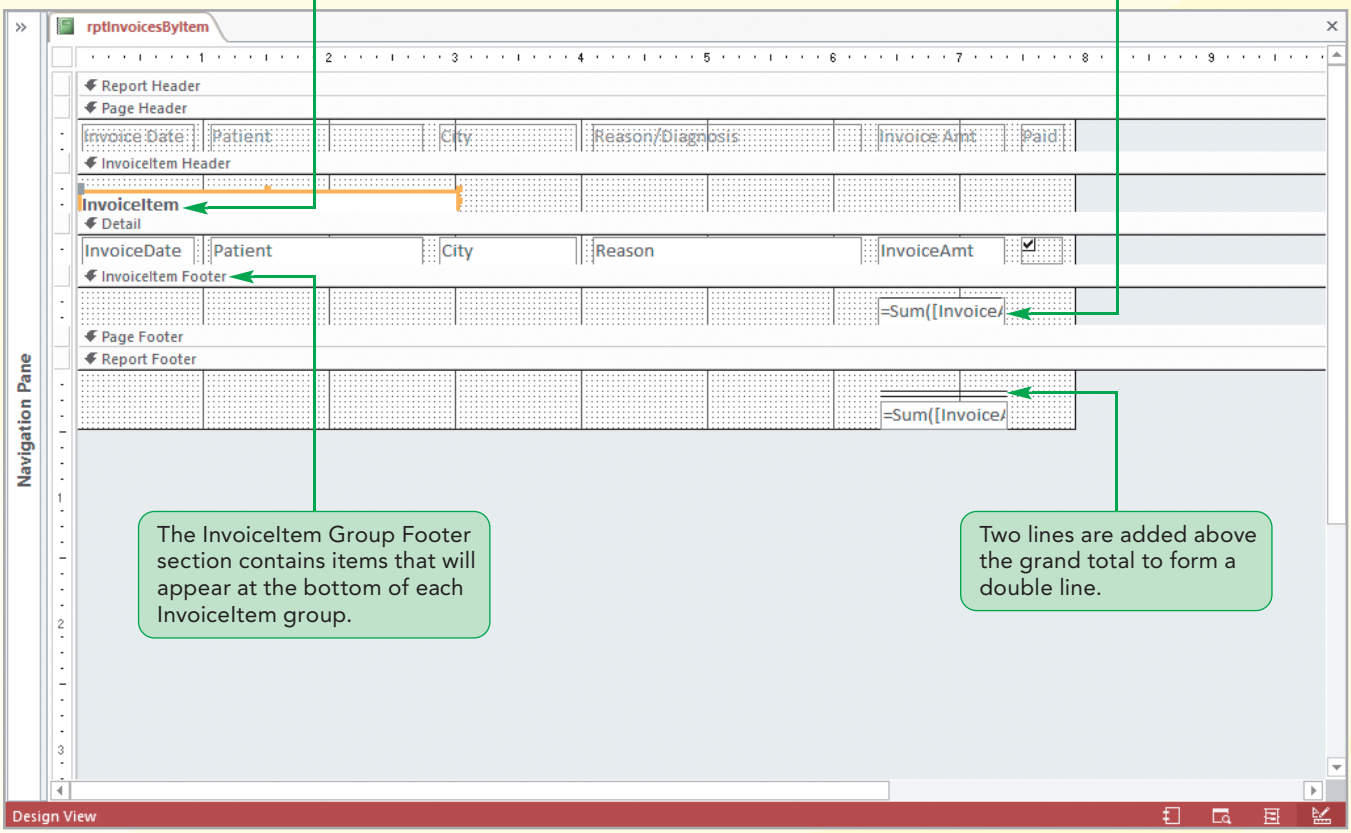
Session 7.1 Quick Check

1. What is a custom report?
2. You can view a report in Report view. What other actions can you perform in Report view?
3. What is a grouping field?
4. List and describe the seven sections of an Access report.

Session 7.2 Visual Overview:

The InvoiceItem Group Header section contains the text box for the InvoiceItem value. Records with a common InvoiceItem value will be grouped together in the report.

The expression used to calculate the subtotal for the InvoiceItem group is placed in the InvoiceItem Group Footer section.



The InvoiceItem Group Footer section contains items that will appear at the bottom of each InvoiceItem group.

Two lines are added above the grand total to form a double line.

Report Design view and Print Preview

The detail items are sorted in ascending order beneath each group item.

The **group band field** is a field that is used to group the detail items.

A yes/no or true/false field is represented with check boxes in a report.

The field heading labels are in the Page Header section and appear at the top of each page.

rptInvoicesByItem

Invoice Date	Patient	City	Reason/Diagnosis	Invoice Amt	Paid
Lab work					
11/20/2015	Aguilar, Lilian	Hartford	Annual wellness visit	$125.00	☑
12/14/2015	Swenson, Lucia	Hartford	Annual wellness visit	$32.00	☐
01/13/2016	Shaw, Daniel	West Hartford	Nasopharyngitis	$125.00	☐
02/26/2016	Franklin, Chaney	Windsor	Elevated blood lipids-monitoring meds	$125.00	☐
03/03/2016	Booker, Thomas	Meriden	Seborrheic dermatitis follow-up	$125.00	☐
03/11/2016	Taylor, Jerome	Hartford	Onychocryptosis	$85.00	☐
03/25/2016	Franklin, Chaney	Windsor	Elevated blood lipids-monitoring meds	$125.00	☐
04/06/2016	Kervin, Steve	Hartford	Tinea pedis	$125.00	☐
04/12/2016	Caputo, Michael	Hartford	Laceration of left eyelid -sutured	$85.00	☐
04/19/2016	Franklin, Chaney	Windsor	Elevated blood lipids-monitoring meds	$125.00	☐
				$1,077.00	
Lab work - culture					
01/28/2016	Phillips, Aquon	Hartford	Acute viral rhinopharyngitis	$125.00	☐
	Sutherland, Max	Windsor	Acute viral rhinopharyngitis	$125.00	☑
02/01/2016	Rowe, Christina	Windsor	Nasopharyngitis	$125.00	☑
02/12/2016	Lee, Hwan	Hartford	UTI	$85.00	☐
03/16/2016	Wallner, Jessica	Hartford	UTI	$85.00	☐
				$545.00	

You hide duplicate field values using the Hide Duplicates field property.

The group band items are sorted in ascending order.

Subtotals aggregate the values using =Sum().

The line that appears above each subtotal is in the Group Footer section.

Designing a Custom Report

Before you create a custom report, you should first plan the report's contents and appearance.

PROSKILLS

Decision Making: Guidelines for Designing and Formatting a Report

When you plan a report, you should keep in mind the following report design guidelines:

- Determine the purpose of the report and its record source. Recall that the record source is a table or query that provides the fields for a report. If the report displays detailed information (a **detail report**), such as a list of all visits, then the report will display fields from the record source in the Detail section. If the report displays only summary information (a **summary report**), such as total visits by city, then no detailed information appears; only grand totals and possibly subtotals appear based on calculations using fields from the record source.
- Determine the sort order for the information in the report.
- Identify any grouping fields in the report.
- Consider creating a sketch of the report design using pen and paper.

At the same time you are designing a report, you should keep in mind the following report formatting guidelines:

- Balance the report's attractiveness against its readability and economy. Keep in mind that an attractive, readable, two-page report is more economical than a report of three pages or more. Unlike forms, which usually display one record at a time in the main form, reports display multiple records. Instead of arranging fields vertically as you do in a form, you usually position fields horizontally across the page in a report. Typically, you set the detail lines to be single space in a report. At the same time, make sure to include enough white space between columns so the values do not overlap or run together.
- Group related fields and position them in a meaningful, logical order. For example, position identifying fields, such as names and codes, on the left. Group together all location fields, such as street and city, and position them in their customary order.
- Identify each column of field values with a column heading label that names the field.
- Include the report title, page number, and date on every page of the report.
- Identify the end of a report either by displaying grand totals or an end-of-report message.
- Use few colors, fonts, and graphics to keep the report uncluttered and to keep the focus on the information.
- Use a consistent style for all reports in a database.

By following these report design and formatting guidelines, you'll create reports that make it easier for users to conduct their daily business and to make better decisions.

After working with Kelly and her staff to determine their requirements for a new report, Raj prepared a design for a custom report to display invoices grouped by invoice item. Refer to the Session 7.2 Visual Overview for Raj's report design.

The custom report will list the records for all invoices and will contain five sections:

- The Page Header section will contain the report title ("Invoices by Item") centered between the current date on the left and the page number on the right. A horizontal line will separate the column heading labels from the rest of the report page. From your work with the Report tool and the Report Wizard, you know that, by default, Access places the report title in the Report Header section and the date and page number in the Page Footer section. Sarah prefers that the date, report title, and page number appear at the top of each page, so you need to place this information in the custom report's Page Header section.

- The InvoiceItem field value from the tblBilling table will be displayed in a Group Header section.
- The Detail section will contain the InvoiceDate, InvoiceAmt, and InvoicePaid field values from the tblBilling table; the Reason field value from the tblVisit table; the City field value from the tblPatient table; and the Patient calculated field value from the qryPatientsByName query. The detail records will be sorted in ascending value by the InvoiceDate field.
- A subtotal of the InvoiceAmt field values will be displayed below a line in the Group Footer section.
- The grand total of the InvoiceAmt field values will be displayed below a double line in the Report Footer section.

Before you start creating the custom report, you need to create a query that will serve as the record source for the report.

Creating a Query for a Custom Report

TIP

Create queries to serve as the record source for forms and reports. As requirements change, you can easily add fields, including calculated fields, to the queries.

The data for a report can come from a single table, from a single query based on one or more tables, or from multiple tables and/or queries. Raj's report will contain data from the tblBilling, tblVisit, and tblPatient tables, and from the qryPatientsByName query. You'll use the Simple Query Wizard to create a query to retrieve all the data required for the custom report and to serve as the report's record source. A query filters data from one or more tables using criteria that can be quite complex. Creating a report based on a query allows you to display and distribute the results of the query in a readable, professional format, rather than only in a datasheet view.

To create the query to serve as the report's record source:

1. If you took a break after the previous session, make sure that the Clinic database is open and the Navigation Pane is closed.
2. Click the **CREATE tab**, in the Queries group click the **Query Wizard** button, make sure **Simple Query Wizard** is selected, and then click the **OK** button. The first Simple Query Wizard dialog box opens.

   You need to select fields from the tblBilling, tblVisit, and tblPatient tables, and from the qryPatientsByName query, in that order.
3. In the Tables/Queries box, select **Table:tblInvoiceItem**, and then move the **InvoiceItem** field to the Selected Fields box.
4. In the Tables/Queries box, select **Table: tblBilling**, and then move the **InvoiceItemID**, **InvoiceDate**, **InvoiceAmt**, and **InvoicePaid** fields, in that order, to the Selected Fields box.
5. In the Tables/Queries box, select **Table: tblVisit**, and then move the **Reason** field to the Selected Fields box.
6. In the Tables/Queries box, select **Table: tblPatient**, and then move the **City** field to the Selected Fields box.
7. In the Tables/Queries box, select **Query: qryPatientsByName**, move the **Patient** calculated field to the Selected Fields box, and then click the **Next** button.
8. Make sure the **Detail (shows every field of every record)** option button is selected, and then click the **Next** button to open the final Simple Query Wizard dialog box.

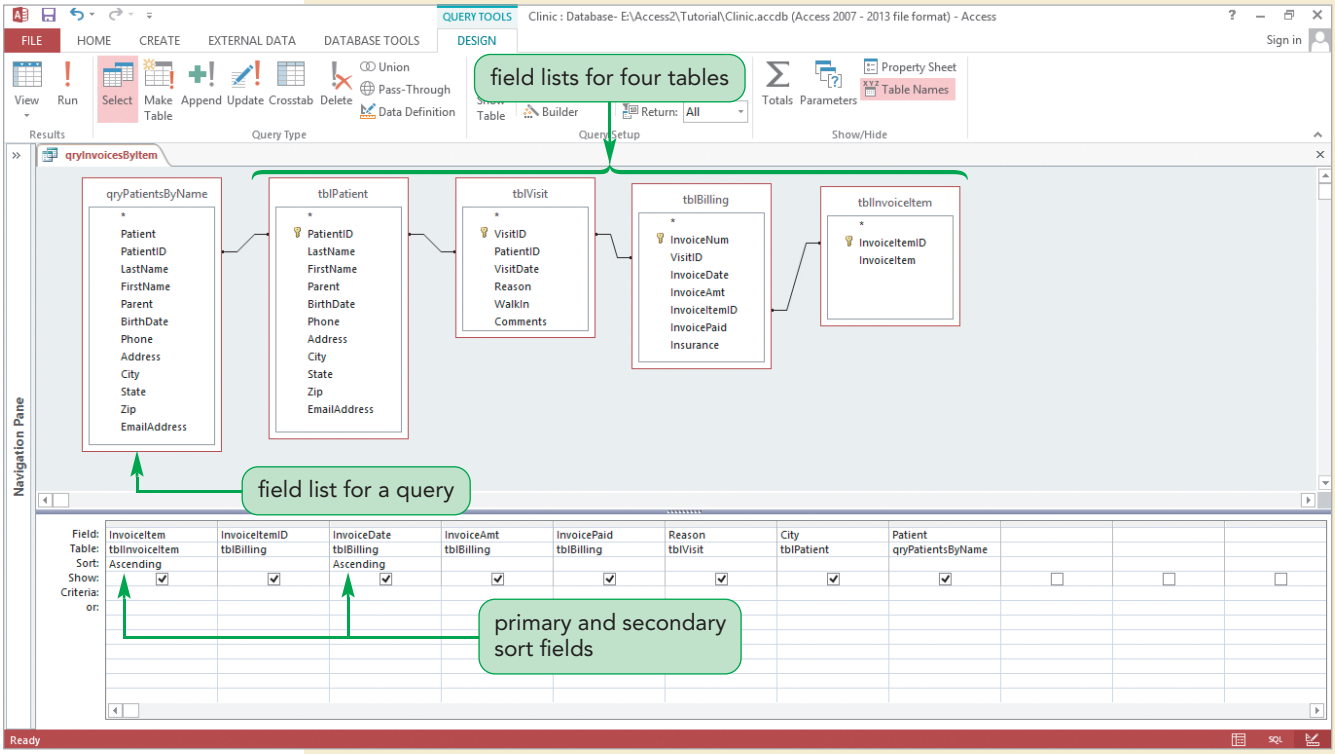
9. Change the query name to **qryInvoicesByItem**, click the **Modify the query design** option button, and then click the **Finish** button. The query is displayed in Design view.

   Next you need to set the sort fields for the query.The InvoiceItem field will be a grouping field, which means it's the primary sort field, and the InvoiceDate field is the secondary sort field.

10. In the design grid, set the value in the InvoiceItem Sort box to **Ascending** and then set the value in the InvoiceDate Sort box to **Ascending**.

11. Lengthen the field lists as necessary to view all fields and drag the tables if necessary to see the join lines between them, and then save your query changes. The completed query contains eight fields from four tables and one query and has two sort fields, the InvoiceItem primary sort field and the InvoiceDate secondary sort field. See Figure 7-12.

Figure 7-12 **Finished qryInvoicesByItem query in Design view**



Trouble? After you've finished creating the query and close it, if you later open the query in Design view, you'll see the thicker join lines with referential integrity enforced, connecting the tblPatient and tblVisit table field lists and the tblVisit and tblBilling table field lists.

Before closing the query, you'll run it to view the query recordset.

12. Click the DESIGN tab if it is not already active, run the query, verify that it displays 204 records, and then save and close the query.

You'll use the qryInvoicesByItem query as the record source for Raj's custom report.

Creating a Custom Report

Now that you've created the record source for the custom report, you could use the Report Wizard to create the report and then modify it to match the report design. However, because you need to customize several components of the report, you will create a custom report in Layout view, and then switch between Layout and Design view to fine-tune the report. As the first step in creating the report, you need to create a blank report in Layout view.

INSIGHT

Making Report Design Modifications

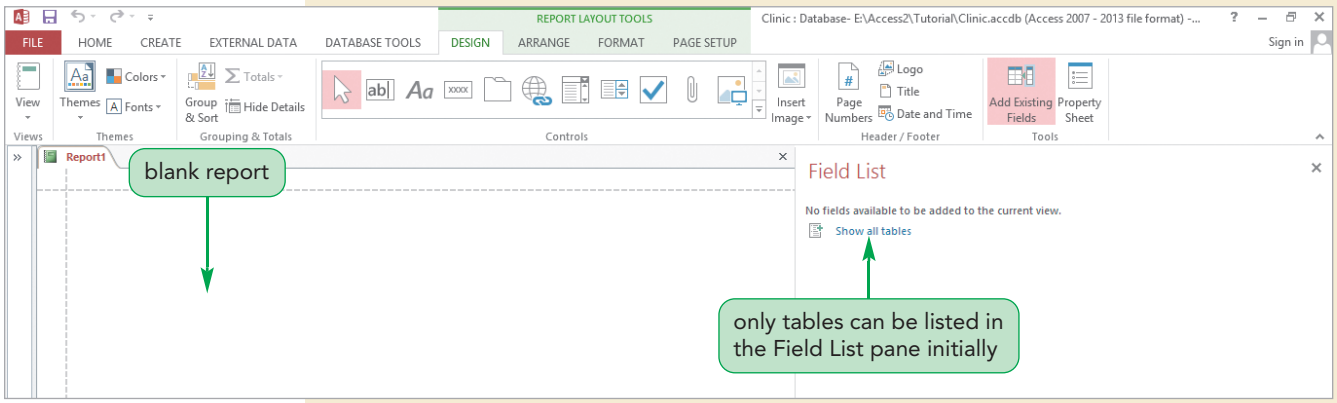
You perform operations in Layout and Design views for reports in the same way that you perform operations in these views for forms. These operations become easier with practice. Remember to use the Undo button when necessary, back up your database frequently, save your report changes frequently, work from a copy of the report for complicated design changes, and compact and repair the database on a regular basis. You can also display the report in Print Preview at any time to view your progress on the report.

You'll create a blank report in Layout view, set the record source, and then add controls to the custom report.

To create a blank report and add bound controls in Layout view:

1. Click the **CREATE** tab on the Ribbon, and then in the Reports group, click the **Blank Report** button. A new report opens in Layout view, with the Field List pane open. See Figure 7-13.

Figure 7-13 Blank report in Layout view

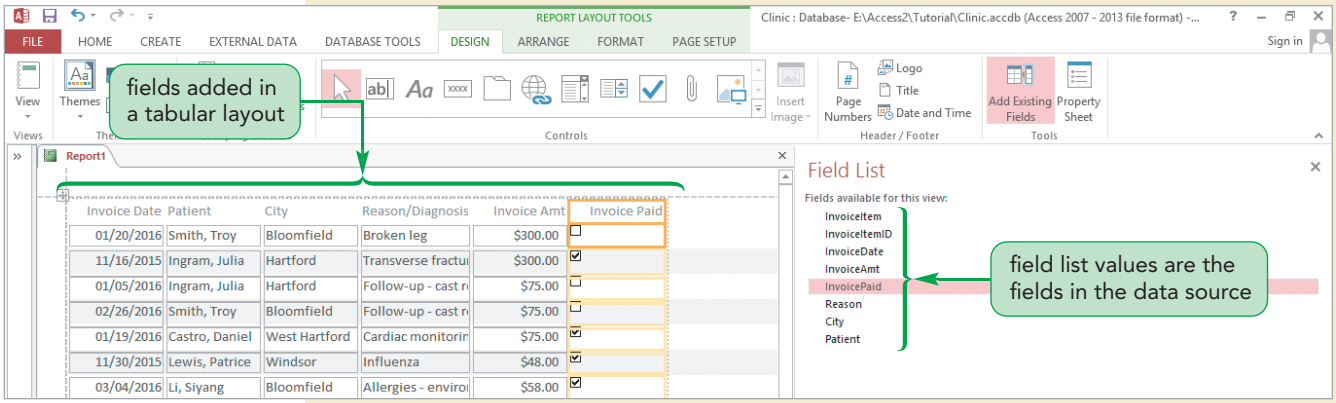


2. On the DESIGN tab, in the Tools group, click the **Property Sheet** button to open the Property Sheet for the report.
3. In the Property Sheet, click the **All** tab (if necessary), click the **Record Source** arrow, click **qryInvoicesByItem**, and then close the Property Sheet.
4. On the DESIGN tab, in the Tools group, click the **Add Existing Fields** button to open the Field List pane. The Field List pane displays the eight fields in the qryInvoicesByItem query, which is the record source for the report.

Referring to Raj's report design, you'll add six of the eight fields to the report in a tabular layout, which is the default control layout when you add fields to a report in Layout view.

5. Double-click **InvoiceDate** in the Field List pane, and then, in order, double-click **Patient**, **City**, **Reason**, **InvoiceAmt**, and **InvoicePaid** in the Field List pane. The six bound controls are displayed in a tabular layout in the report. See Figure 7-14.

Figure 7-14 **After adding fields to the report in Layout view**



Trouble? If you add the wrong field to the report, click the field's column heading, press and hold the Shift key, click one of the field values in the column to select the column, release the Shift key, click the HOME tab on the Ribbon, and then in the Records group, click the Delete button to delete the field. If you add a field in the wrong order, click the column heading in the tabular layout, press and hold the Shift key, click one of the field values in the column, release the Shift key, and then drag the column to its correct columnar position.

You'll add the sixth field, the InvoiceItem field, as a grouping field, so you are done working with the Field List pane.

6. Close the Field List pane, and then save the report as **rptInvoicesByItem**.

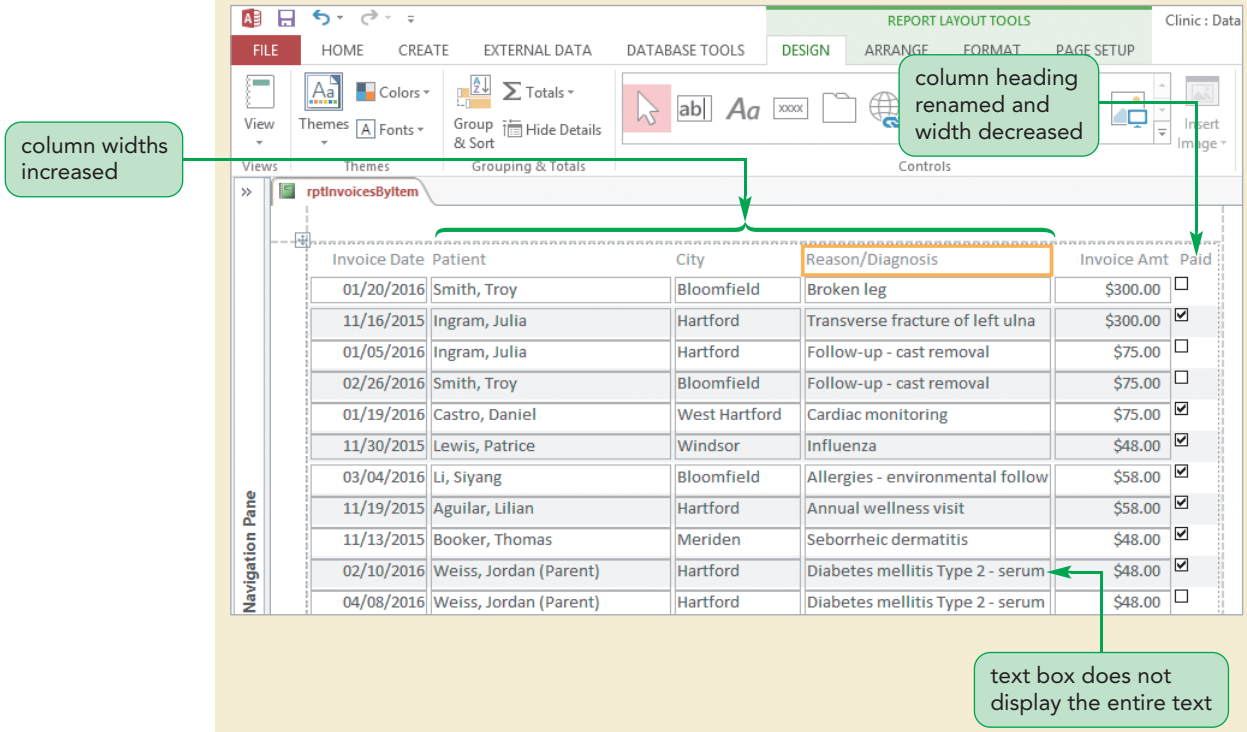
Next, you'll adjust the column widths in Layout view. Also, because the Invoice Amt and Invoice Paid columns are adjacent, you'll change the rightmost column heading to Paid to save space.

To resize and rename columns in Layout view:

1. Double-click **Invoice Paid** in the rightmost column, delete **Invoice** and the following space, and then press the **Enter** key.
2. Drag the right edge of the **Paid** control to the left to decrease the column's width so it just fits the column heading.
3. Click **Patient** to select the column, and then drag the right edge of the control to the right to increase its width, until it accommodates the contents of all data in the column.
4. Repeat Step 3 to resize the **City** and **Reason** columns, as shown in Figure 7-15.

The full text will not be displayed in the Reason text boxes, which is okay for now. You'll fine-tune the adjustments and the spacing between columns later in Design view.

Figure 7-15 **After resizing and renaming columns in Layout view**



According to Raj's plan for the report (see the Session 7.2 Visual Overview), the InvoiceItem field is a grouping field that is displayed in a Group Header section. Subtotals for the InvoiceAmt field are displayed in a Group Footer section for each InvoiceItem field value. Next you need to add the sorting and grouping data to the report.

Sorting and Grouping Data in a Report

Access lets you organize records in a report by sorting them using one or more sort fields. Each sort field can also be a grouping field. If you specify a sort field as a grouping field, you can include a Group Header section and a Group Footer section for the group. A Group Header section typically includes the name of the group, and a Group Footer section typically includes a count or subtotal for records in that group. Some reports have a Group Header section but not a Group Footer section, some reports have a Group Footer section but not a Group Header section, and some reports have both sections or have neither section.

You use the Group, Sort, and Total pane to select sort fields and grouping fields for a report. Each report can have up to 10 sort fields, and any of its sort fields can also be grouping fields.

REFERENCE

Sorting and Grouping Data in a Report

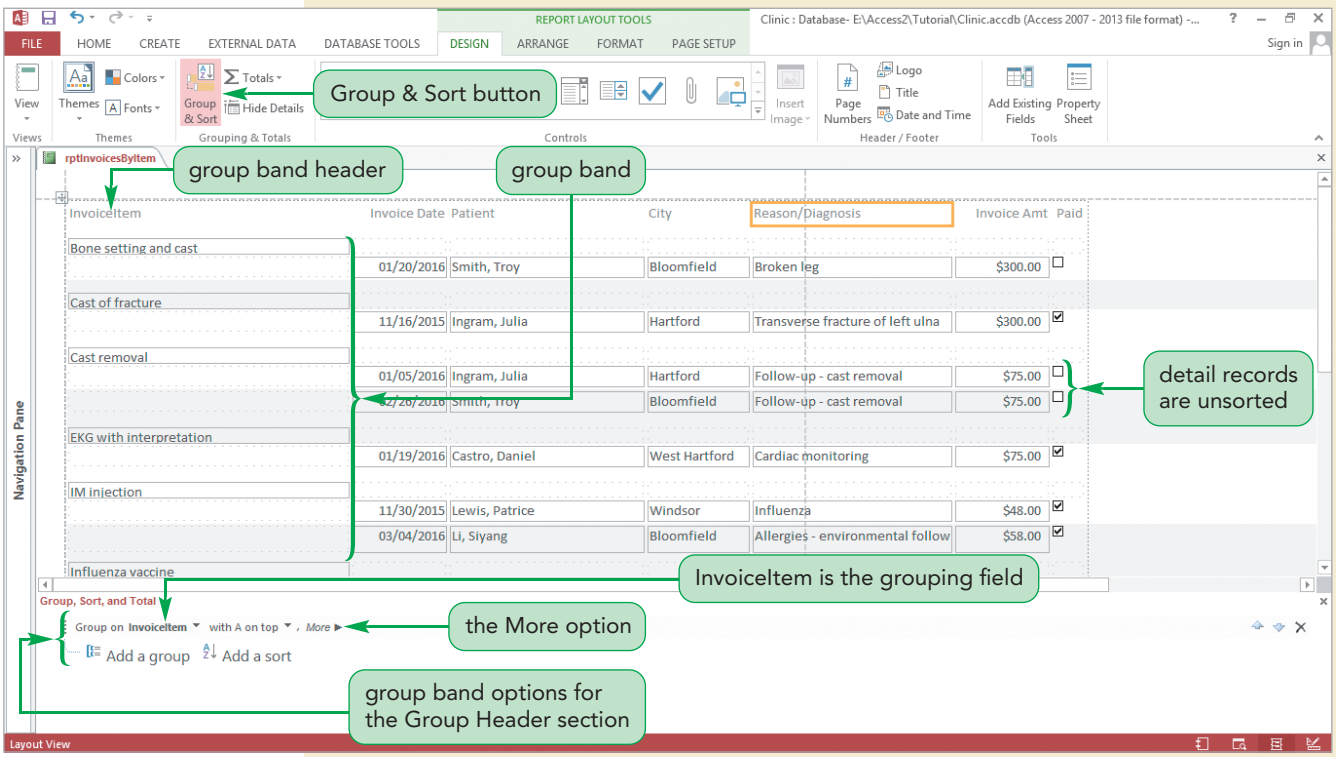
- Display the report in Layout view or Design view.
- If necessary, on the DESIGN tab, in the Grouping & Totals group, click the Group & Sort button to display the Group, Sort, and Total pane.
- To select a grouping field, in the Group, Sort, and Total pane click the Add a group button, and then click the grouping field in the list. To set additional properties for the grouping field, on the group field band click the More button.
- To select a sort field that is not a grouping field, in the Group, Sort, and Total pane click the Add a sort button, and then click the sort field in the list. To set additional properties for the sort field, on the sort field band click the More button.

In Raj's report design, the InvoiceItem field is a grouping field, and the InvoiceDate field is a sort field. The InvoiceItem field value is displayed in a Group Header section, but the InvoiceItem field label is not displayed. The sum of the InvoiceAmt field values is displayed in the Group Footer section for the InvoiceItem grouping field. Next, you'll select the grouping field and the sort field and set their properties.

To select and set the properties for the grouping field and the sort field:

1. On the DESIGN tab, in the Grouping & Totals group, click the **Group & Sort** button to open the Group, Sort, and Total pane.
2. In the Group, Sort, and Total pane, click the **Add a group** button, and then click **InvoiceItem** in the list. Access adds a Group Header section to the report with InvoiceItem as the grouping field, and adds group band options in the Group, Sort, and Total pane for this section. See Figure 7-16.

Figure 7-16 After selecting InvoiceItem as a grouping field in Layout view



InvoiceItem is now a bound control in the report in a Group Header section that displays a field value text box. The group band options in the Group, Sort, and Total pane contains the name of the grouping field (InvoiceItem), the sort order ("with A on top" to indicate ascending), and the More option, which you click to display more options for the grouping field. You can click the "with A on top" arrow to change to descending sort order ("with Z on top").

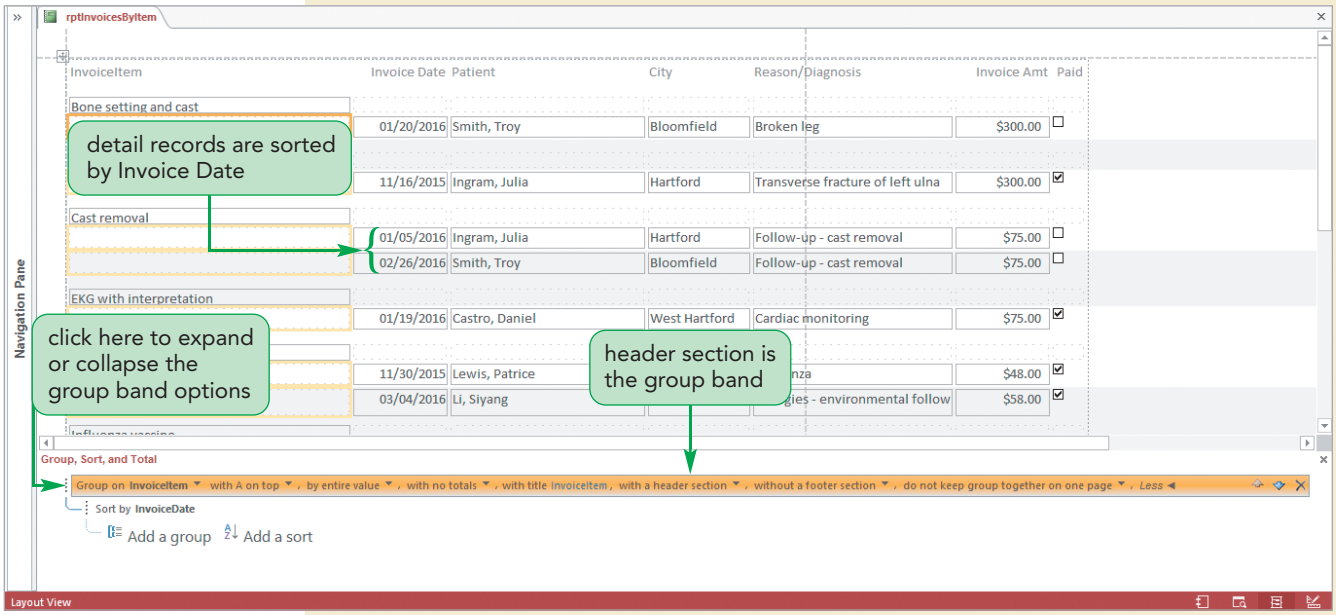
Notice that the addition of the grouping field has moved the detail records to the right; you'll move them back to the left later in this tutorial. Also, notice that the detail records are unsorted, and Raj's design specifies an ascending sort on the InvoiceDate field. Next, you'll select this field as a secondary sort field; the InvoiceItem grouping field is the primary sort field.

3. In the Group, Sort, and Total pane, click the **Add a sort** button, and then click **InvoiceDate** in the list. Access displays the detail records in ascending order by InvoiceDate and adds a sort band for the InvoiceDate field in the Group, Sort, and Total pane.

Next, you'll display all the options for the InvoiceItem group band field, and set group band options as shown in Raj's report design.

4. Click ⋮ to the left of the group band options to select them, and then click **More** to display all group band options. See Figure 7-17. Next, you need to delete the Invoice Item label.

Figure 7-17 **After expanding the group band**

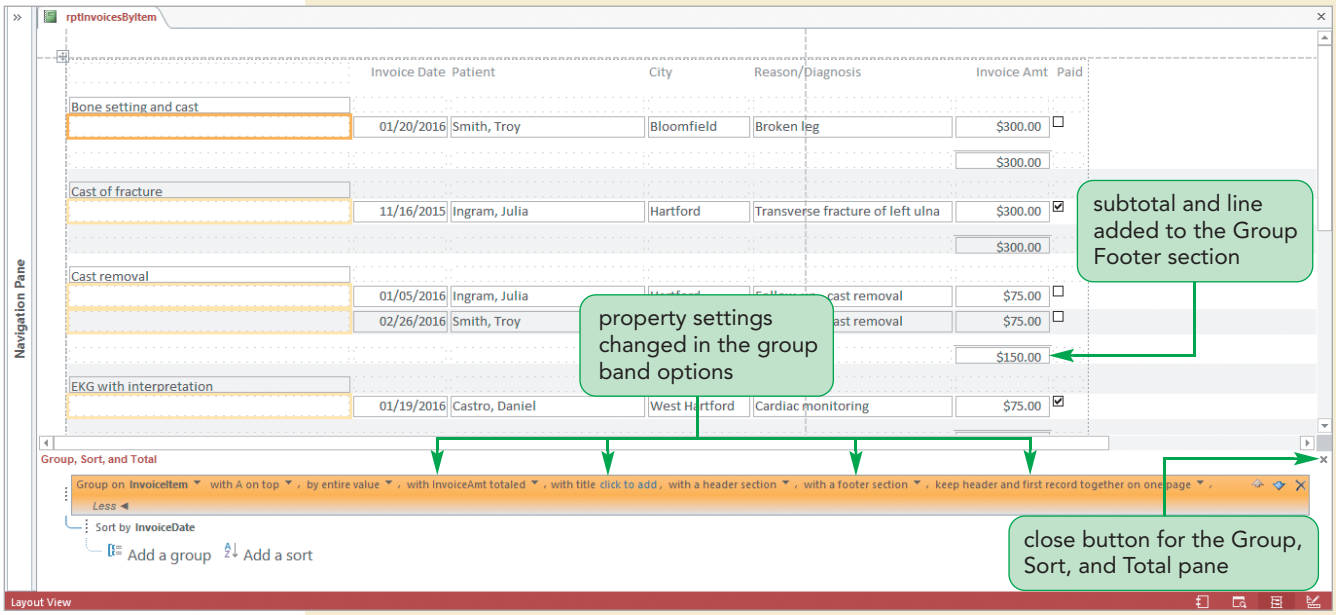


5. In the "with title Invoice Item" option, click the **Invoice Item** link to open the Zoom dialog box, press the **Delete** key to delete the expression, and then click the **OK** button. The Invoice Item label is deleted from the report, and the option in the group band options changes to "with title click to add."

Next you'll set the Keep Together property. The **Keep Together property** prints a group header on a page only if there is enough room on the page to print the first detail record for the group; otherwise, the group header prints at the top of the next page.

6. In the group band options, click the **do not keep group together on one page** arrow, and then click **keep header and first record together on one page**.
7. In the group band options, click **More** to expand the options (if necessary), click the **without a footer section** arrow, and then click **with a footer section**. Access adds a Group Footer section for the InvoiceItem grouping band field, but the report doesn't display this new section until you add controls to it.
8. In the group band options, click **More** to expand the options (if necessary), click the **with no totals** arrow to open the Totals menu, click the **Total On** arrow, click **InvoiceAmt**, make sure **Sum** is selected in the Type box, and then click the **Show Grand Total** check box. The group band options collapse.
9. In the group band options, click **More** to expand the options (if necessary), click the **with InvoiceAmt totaled** arrow, click the **Total On** arrow, click **InvoiceAmt**, and then click the **Show subtotal in group footer** check box. This adds subtotals in the Amount column, at the bottom of each group.
10. In the group band options, click **More** to expand the options (if necessary). The group band options shows the InvoiceAmt subtotals and a grand total added to the report. See Figure 7-18.

Figure 7-18 After setting properties in the group band



11. Save your report changes, switch to Print Preview, and then use the navigation buttons to review every page until you reach the end of the report—noticing in particular the details of the report format and the effects of the Keep Together property. Also, notice that because the grouping field forces the detail values to the right, the current report design prints the detail values across two pages.

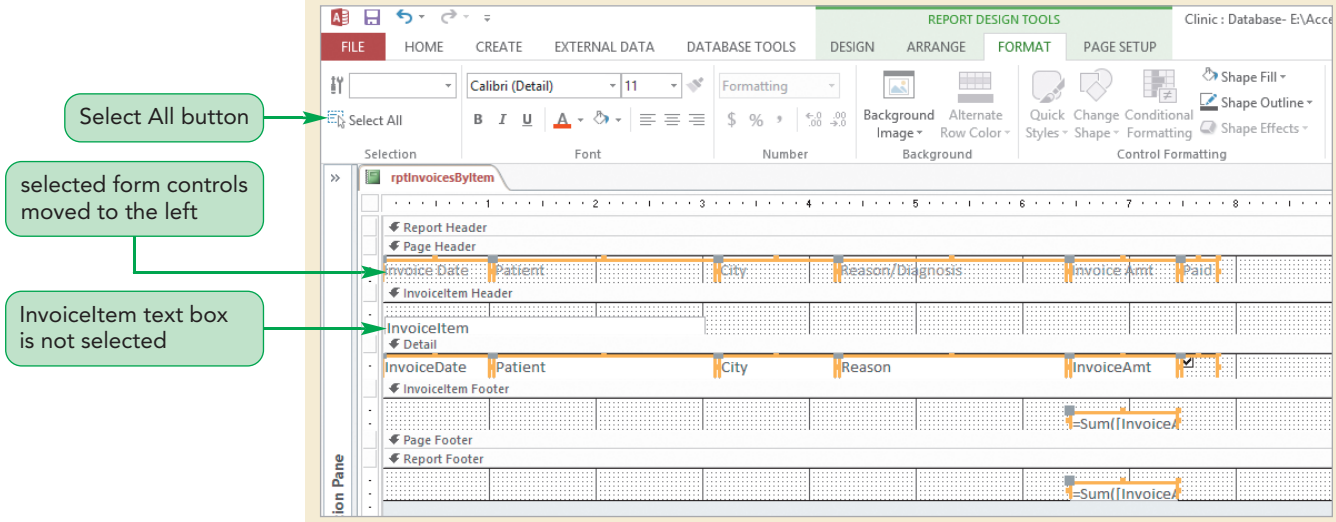
Before you can move the detail values to the left onto one page, you need to remove all controls from the control layout.

To remove controls from a control layout in Layout view:

1. Switch to Layout view.
2. Click the **layout selector** ✥, which is located at the top-left corner of the column heading line, to select the entire control layout. An orange outline, which identifies the controls that you've selected, appears around the labels and text boxes in the report, and a yellow outline appears around the other controls in the report.
3. Right-click one of the selected controls to open the shortcut menu, point to **Layout**, and then click **Remove Layout**. This removes the selected controls from the layout so they can be moved without affecting the other controls.

   Next you'll move all the controls to the left except for the InvoiceItem text box. You have to be careful when you move the remaining controls to the left. If you try to select all the column headings and the text boxes, you're likely to miss the subtotal and grand total controls. The safest technique is to select all controls in the report, and then remove the InvoiceItem text box from the selection. This latter step, removing individual controls from a selection, must be done in Design view because it doesn't work in Layout view.
4. Switch to Design view, click the **Format** tab, and then in the Selection group, click the **Select All** button. All controls in the report are now selected.
5. Hold down the **Shift** key, click the **InvoiceItem** text box in the InvoiceItem Header section to remove this control from the selection, and then release the **Shift** key.
6. Hold down the ← key to move the selected controls rapidly to the left edge of the report, and then release the ← key. See Figure 7-19.

Figure 7-19 After moving all controls to the left in the report



The grand total of the InvoiceAmt field values is displayed at the end of the report, and subtotals are displayed for each unique InvoiceItem field value in the Group Footer section. It's possible for subtotals to appear in an orphaned footer section. An **orphaned footer section** appears by itself at the top of a page, and the detail lines for the section appear on the previous page. When you set the Keep Together property for the grouping field, you set it to keep the group and the first detail record together on one page to

prevent an **orphaned header section**, which is a section that appears by itself at the bottom of a page. To prevent both types of orphaned sections, you'll set the Keep Together property to keep the whole group together on one page.

In addition, you need to fine-tune the sizes of the text boxes in the Detail section, adjust the spacing between columns, and make other adjustments to the current content of the report design before adding a report title, the date, and page number to the Page Header section. You'll make most of these report design changes in Design view.

Working with Controls in Design View

Compared to Layout view, Design view gives you greater control over the placement and sizing of controls, and lets you add and manipulate many more controls; however, this power comes at the expense of not being able to see live data in the controls to guide you as you make changes.

The rptInvoicesByItem report has five sections that contain controls: the Page Header section contains the six column heading labels; the InvoiceItem Header section (a Group Header section) contains the InvoiceItem text box; the Detail section contains the six bound controls; the InvoiceItem Footer section (a Group Footer section) contains a line and the subtotal text box; and the Report Footer section contains a line and the grand total text box.

You'll move and resize controls in the report in Design view. The Group, Sort, and Total pane is still open, so first you'll change the Keep Together property setting.

To change the report size:

1. In the Group, Sort, and Total pane, click ⋮ to the left of the group band options to select it, click **More** to display all group options, click the **keep header and first record together on one page** arrow, click **keep whole group together on one page**, and then click the Close button ✕ in the top right corner of the Group, Sort, and Total pane to close it.

   You'll start improving the report by setting the InvoiceItem text box font to bold.

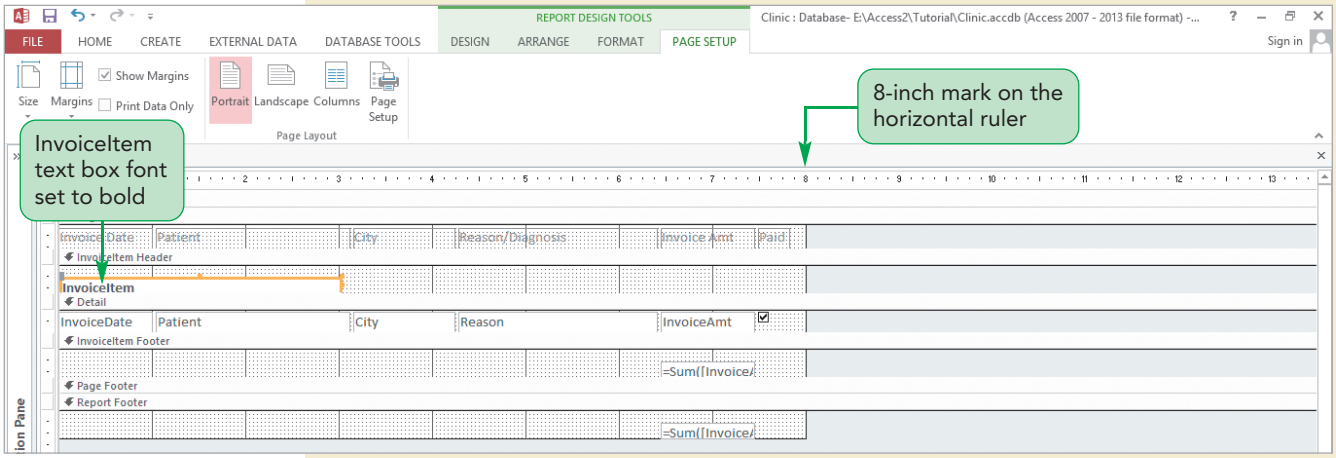
2. Select the **InvoiceItem** text box in the InvoiceItem Header section, and then on the FORMAT tab, in the Font group, click the **Bold** button. The placeholder text in the InvoiceItem text box is displayed in bold.

   The report's width is approximately 16 inches, which is much wider than the width of the contents of the report, so you'll reduce its width to fit a page that is 8.5 inches wide with narrow margins.

3. Click the PAGE SETUP tab, click the **Margins button**, and then click the **Narrow button**.

4. Scroll to the right until you see the right edge of the report (the point where the dotted grid ends), move the pointer over the right edge of the report until it changes to a ↔ shape, drag to the left to the 8-inch mark on the horizontal ruler, and then scroll to the left to display the entire report from the left (if necessary). See Figure 7-20.

Figure 7-20 After reducing the width of the report



The text boxes in the Detail section are crowded together with little space between them, and the form controls are too wide for a page with normal margins. Your reports shouldn't have too much space between columns, but reports are easier to read when the columns are separated more than they are in the rptInvoicesByItem report. Sometimes the amount of spacing is dictated by the users of the report, but you also need to work with the minimum size of the form controls as well. To design this report to fit on a page with narrow margins, the report width will have to be 8.5 inches minus the left and right margins of 0.25 inches each, which results in a maximum report width of 8 inches (8.5"–0.25"–0.25"). This is the size you already used to reduce the report grid in Design view. Next, you'll add some space between the columns while ensuring they still fit in the 8-inch report width. First, you'll resize the Invoice Date and Patient form controls in Layout view, and then you'll arrange the columns in Design view. You'll size the corresponding heading and field value text boxes for each column to be the same width.

To move and resize controls in the report:

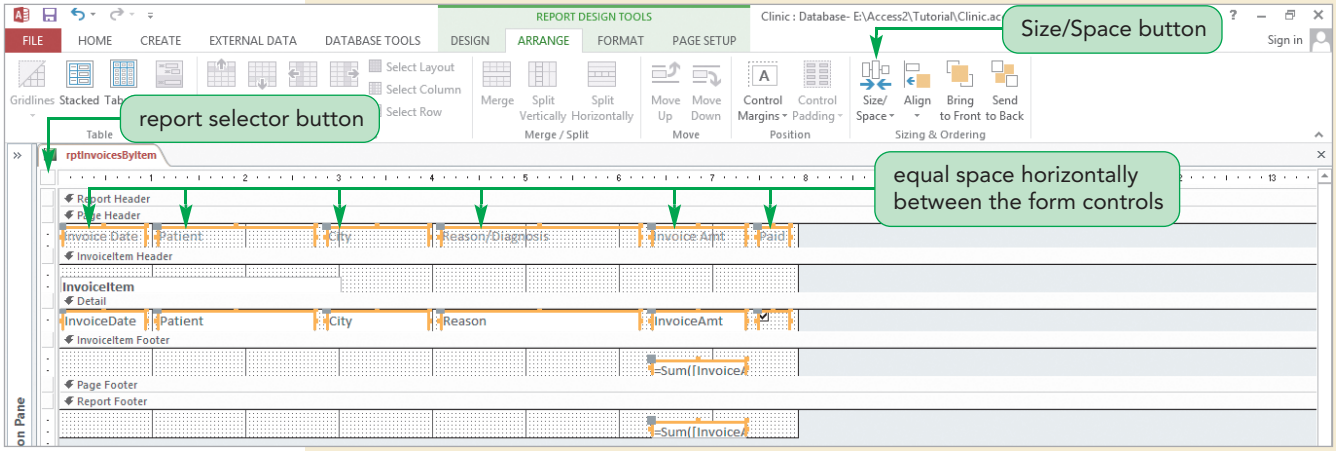
1. Switch to Layout view, click the **Invoice Date** heading, press and hold the **Shift** key, and then click on one of the Invoice Date field values to select all of the Invoice Date text boxes.
2. Drag the right side of the controls to the left to reduce the size of the text boxes to fit the data better.
3. Repeat Steps 1 and 2 for the Patient heading and field values to reduce their widths to fit the data better.

   Next you'll adjust the spacing between the controls to distribute them evenly across the page.
4. Switch to Design view, click the **FORMAT** tab, and then in the Selection group click the **Select All button** to select all controls.
5. Press and hold the **Shift** key and click the **Invoice Item** control to deselect it.
6. Click the **ARRANGE** tab, in the Size & Ordering group click the **Size/Space button**, and then click **Equal Horizontal**. The form controls are shifted horizontally so the spacing between them is equal. See Figure 7-21.

TIP

You can resize labels and controls added with the Label tool using Size, To Fit, but you can't resize text boxes using the To Fit method.

Figure 7-21 After resizing and spacing controls in Design view



The Patient and Reason text boxes may not be wide enough to display the entire field value in all cases. For the Patient and Reason text boxes, you'll set their Can Grow property to Yes. The **Can Grow property**, when set to Yes, expands a text box vertically to fit the field value when the report is printed, previewed, or viewed in Layout and Report views.

TIP

You can select two or more controls, and then set common properties for the selected controls, instead of setting them one control at a time.

7. Click the **DESIGN** tab, click the **Report Selector** button to deselect all controls, select the **Patient** and **Reason** text boxes in the Detail section, right-click one of the selected controls, and then on the contextual menu click **Properties**.

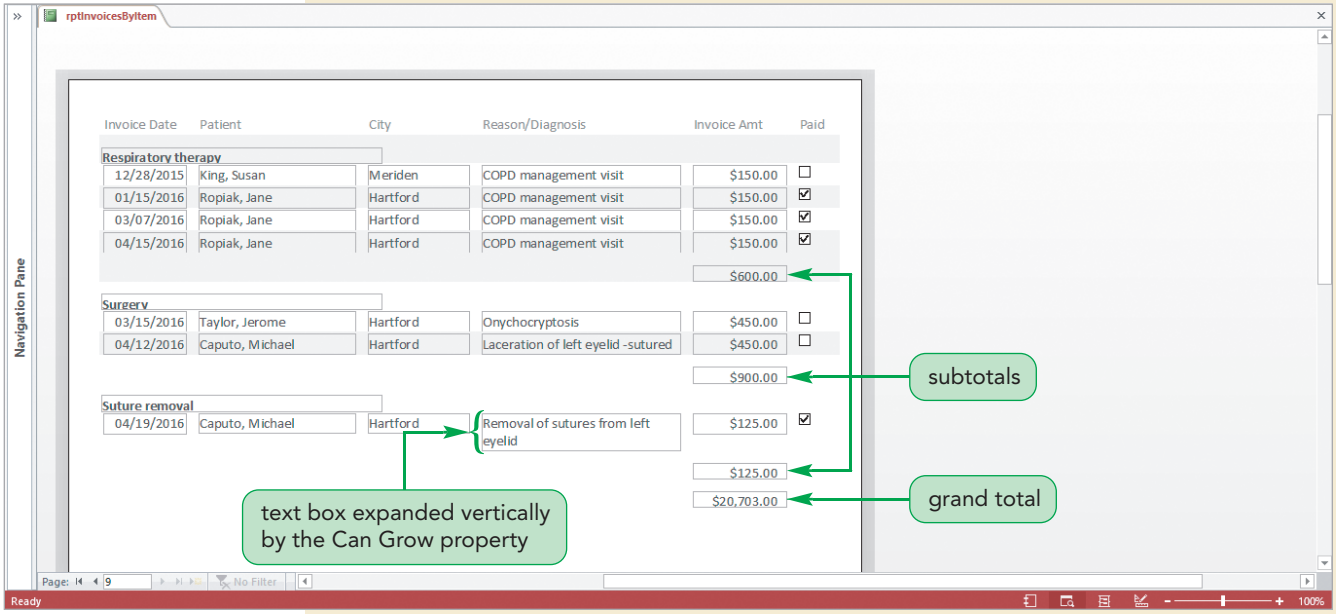
8. On the Property Sheet, click the **Format** tab, scroll down the Property Sheet to the Can Grow property, and then if the Can Grow property is set to Yes, set it to **No**. The default setting for this feature may not work properly, so to ensure the setting is applied correctly, you must make sure it is first set to No.

   Trouble? If you don't see the CanGrow property on the Format tab, double-check to ensure you've selected the Patient and Reason controls in the Detail section, not in the Page Header section.

9. Change the Can Grow property value to **Yes**, close the Property Sheet, and then save your report changes.

10. Switch to Print Preview, and then review every page of the report, ending on the last page. See Figure 7-22.

Figure 7-22 **Reviewing the report changes in Print Preview**



The groups stay together on one page, except for the groups that have too many detail lines to fit on one page. The Can Grow property correctly expands the height of the Patient and Reason text boxes.

Also, the lines that were displayed above the subtotals and grand total are no longer displayed, and the commas in the values are not fully visible. You'll add those lines back in the report and resize the text boxes. First, Raj thinks the borders around the text boxes and the alternate row color are too distracting, so you'll remove them from the report.

To remove the borders and alternate row color:

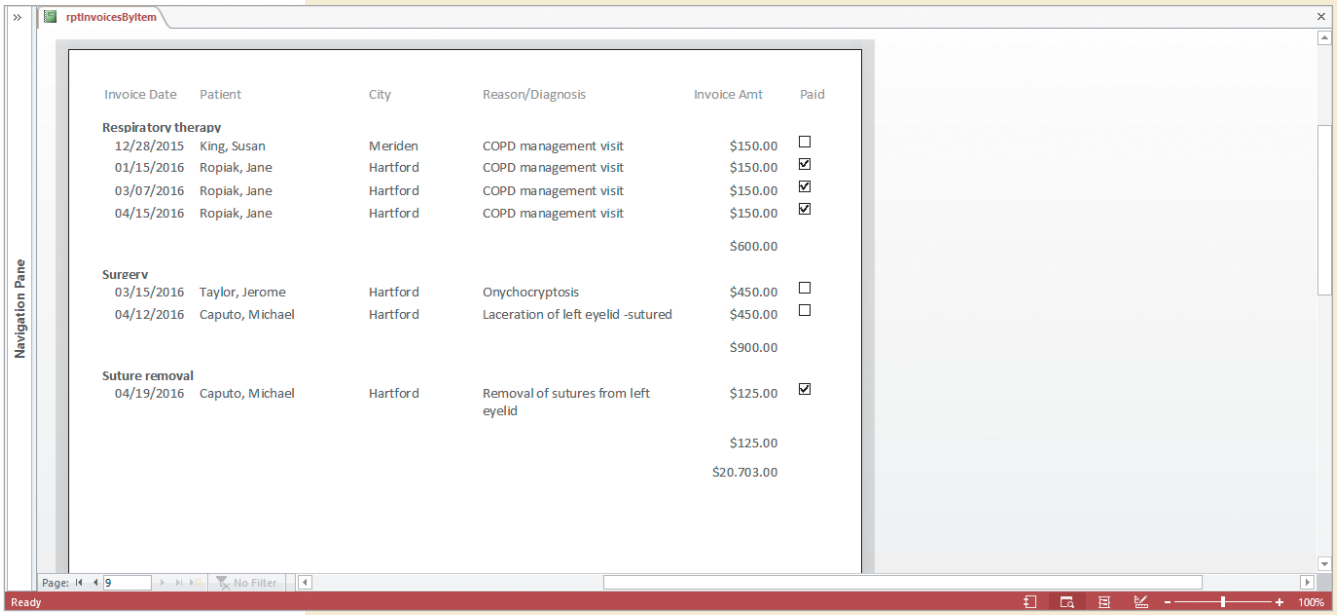
1. Close the Print Preview and switch to Design view.
2. Click the **FORMAT** tab, and then in the Selection group, click the **Select All** button.
3. Right-click one of the selected controls, and then click **Properties** on the shortcut menu to open the Property Sheet.
4. Click the **Format** tab (if necessary) in the Property Sheet, click the right side of the **Border Style** box, and then click **Transparent**. The transparent setting will remove the boxes from the report by making them transparent.
5. Click the **InvoiceItem Header** section bar, click the right side of the **Alternate Back Color** box in the Property Sheet, and then click **No Color** at the bottom of the gallery. This setting removes the alternate row color from the InvoiceItem Header section.
6. Click the **Detail** section bar, and then on the **FORMAT** tab, in the Background group, click the **Alternate Row Color** button, and then click **No Color** at the bottom of the gallery. The Alternate Back Color property setting in the Property Sheet is now set to No Color.
7. Repeat Step 6 for the **InvoiceItem Footer** section.

TIP

You can also control the Alternate Back Color property using the Alternate Row Color button because the two options set the same property.

8. Close the Property Sheet, save your report changes, switch to Print Preview, and review every page of the report, ending on the last page. See Figure 7-23.

Figure 7-23 **After removing borders and the alternate row color**



Invoice Date	Patient	City	Reason/Diagnosis	Invoice Amt	Paid
Respiratory therapy					
12/28/2015	King, Susan	Meriden	COPD management visit	$150.00	☐
01/15/2016	Ropiak, Jane	Hartford	COPD management visit	$150.00	☑
03/07/2016	Ropiak, Jane	Hartford	COPD management visit	$150.00	☑
04/15/2016	Ropiak, Jane	Hartford	COPD management visit	$150.00	☑
				$600.00	
Surgery					
03/15/2016	Taylor, Jerome	Hartford	Onychocryptosis	$450.00	☐
04/12/2016	Caputo, Michael	Hartford	Laceration of left eyelid -sutured	$450.00	☐
				$900.00	
Suture removal					
04/19/2016	Caputo, Michael	Hartford	Removal of sutures from left eyelid	$125.00	☑
				$125.00	
				$20.703.00	

Next, you'll add lines to the report.

Adding Lines to a Report

You've used the Line tool to add lines to a form. You can also use the Line tool to add lines to a report. Previously, you added a line to separate the header content from the rest of the report. Now you'll add lines to separate the values from the subtotals and grand total. You'll switch to Design view and use the Line tool to add a single line above the subtotal control and a double line above the grand total control. First, you'll resize the subtotal and grand total text boxes.

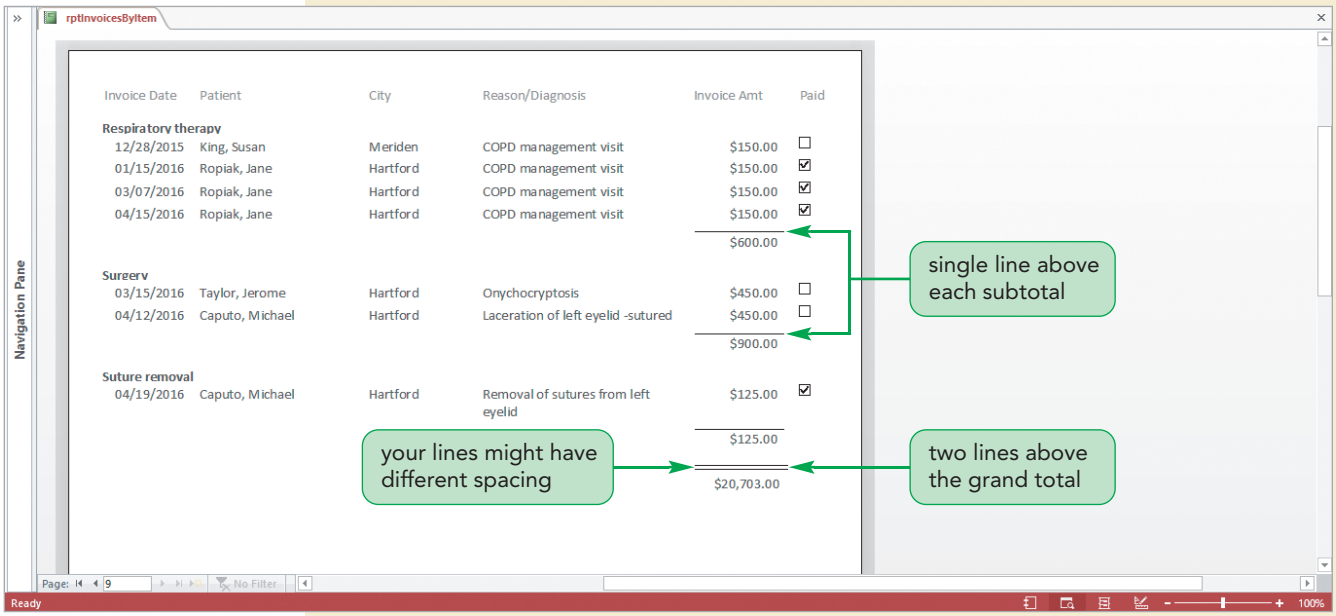
To add lines to the report:

1. Close the Print Preview and switch to Design view.
2. In the InvoiceItem Footer section, click the text box control to select it, and then resize the control from the top so its height increases by one row of grid dots.
3. Repeat Step 2 to resize the text box control in the Report Footer section.
4. On the DESIGN tab, in the Controls group, click the **More** button to open the Controls gallery.
5. Click the **Line** tool, position the pointer's plus symbol (+) in the InvoiceItem Footer section at the upper-left corner of the text box, hold down the **Shift** key, drag a horizontal line from left to right so the end of the line aligns with the upper-right corner of the text box, release the mouse button, and then release the **Shift** key.

6. In the Report Footer section, click the text box, press the ↓ key four times to move the control down slightly in the section, and then deselect all controls.
7. On the DESIGN tab, in the Controls group, click the **More** button, click the **Line** tool, position the pointer's plus symbol (+) in the Report Footer section at the grid dot just above the upper-left corner of the text box, hold down the **Shift** key, drag a horizontal line from left to right so the end of the line aligns with the right edge of the text box, release the mouse button, and then release the **Shift** key.

   Next, you'll copy and paste the line in the Report Footer section, and then align the copied line into position.
8. Right-click the selected line in the Report Footer section, and then click **Copy** on the shortcut menu.
9. Right-click the **Report Footer** section bar, and then click **Paste** on the shortcut menu. A copy of the line is pasted in the upper-left corner of the Report Footer section.
10. Press the ↓ key four times to move the copied line down in the section, hold down the **Shift** key, click the original line in the Report Footer section to select both lines, release the **Shift** key, right-click the copied line to open the shortcut menu, point to **Align**, and then click **Right**. A double line is now positioned above the grand total text box.
11. Save your report changes, switch to Print Preview, and then navigate to the last page of the report. See Figure 7-24.

Figure 7-24 **After adding lines to the report**



For the rptInvoicesByItem report, the InvoiceDate field is a sort field. Two or more consecutive detail report lines can have the same InvoiceDate field value. In these cases, Raj wants the InvoiceDate field value printed for the first detail line but not for subsequent detail lines because he believes it makes the printed information easier to read.

Hiding Duplicate Values in a Report

You use the **Hide Duplicates property** to hide a control in a report when the control's value is the same as that of the preceding record in the group.

REFERENCE

Hiding Duplicate Values in a Report

- Display the report in Layout or Design view.
- Open the Property Sheet for the field whose duplicate values you want to hide.
- Set the Hide Duplicates property to Yes, and then close the Property Sheet.

TIP

Use Hide Duplicates only on fields that are sorted. Otherwise it may look as if data is missing.

Your next design change to the report is to hide duplicate InvoiceDate field values in the Detail section. This change will make the report easier to read.

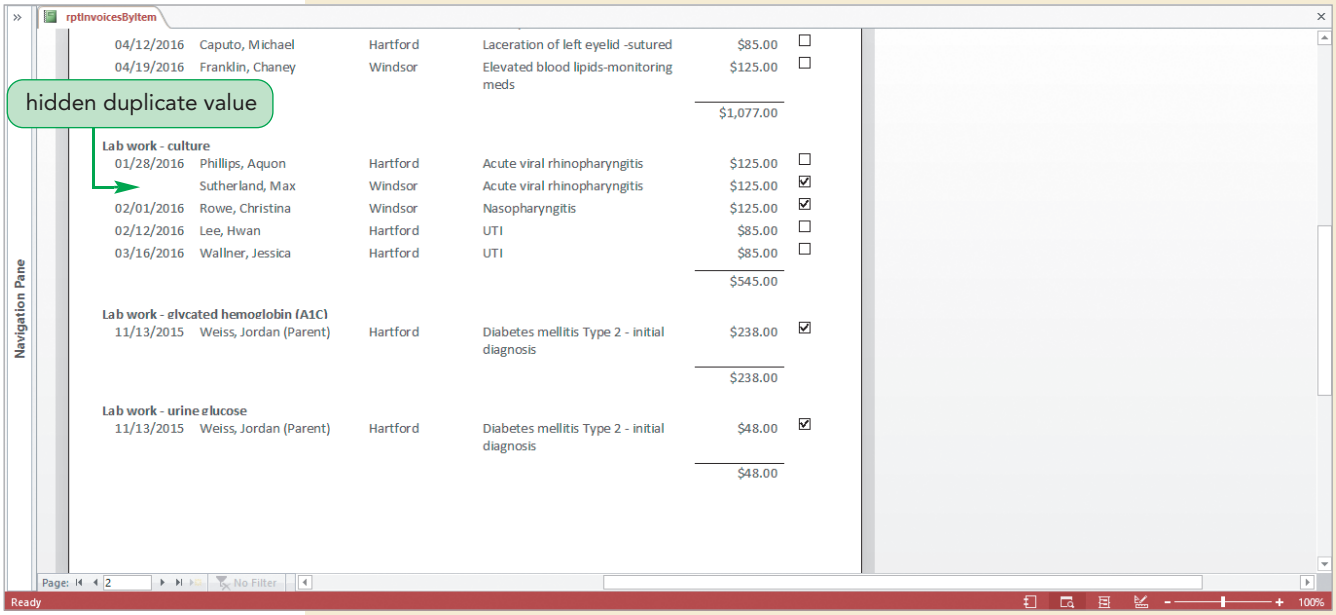
To hide the duplicate InvoiceDate field values:

1. Close Print Preview, switch to Design view, and then click below the grid to deselect all controls.
2. Open the Property Sheet for the **InvoiceDate** text box in the Detail section.
3. Click the **Format** tab (if necessary), scroll down the Property Sheet (if necessary), click the right side of the **Hide Duplicates** box, and then click **Yes**.
4. Close the Property Sheet, save your report changes, switch to Print Preview, navigate to page 2 (the actual page you view might vary depending on your printer) to the Lab work - Culture group to see the two invoice records for 01/28/2016. The InvoiceDate field value is hidden for the second of the two consecutive records with a 01/28/2016 date. See Figure 7-25.

TIP

For properties offering a list of choices, you can double-click the property name repeatedly to cycle through the options in the list.

Figure 7-25 **Report in Print Preview with hidden duplicate values**



5. If you are not continuing on to the next session, close the Clinic database.

You have completed the Detail section, the Group Header section, and the Group Footer section of the custom report. In the next session, you will complete the custom report according to Raj's design by adding controls to the Page Header section.

REVIEW

Session 7.2 Quick Check

1. What is a detail report? A summary report?
2. The _____ property prints a group header on a page only if there is enough room on the page to print the first detail record for the group; otherwise, the group header prints at the top of the next page.
3. A(n) _____ section appears by itself at the top of a page, and the detail lines for the section appear on the previous page.
4. The _____ property, when set to Yes, expands a text box vertically to fit the field value when a report is printed, previewed, or viewed in Layout and Report views.
5. Why might you want to hide duplicate values in a report?

Session 7.3 Visual Overview:

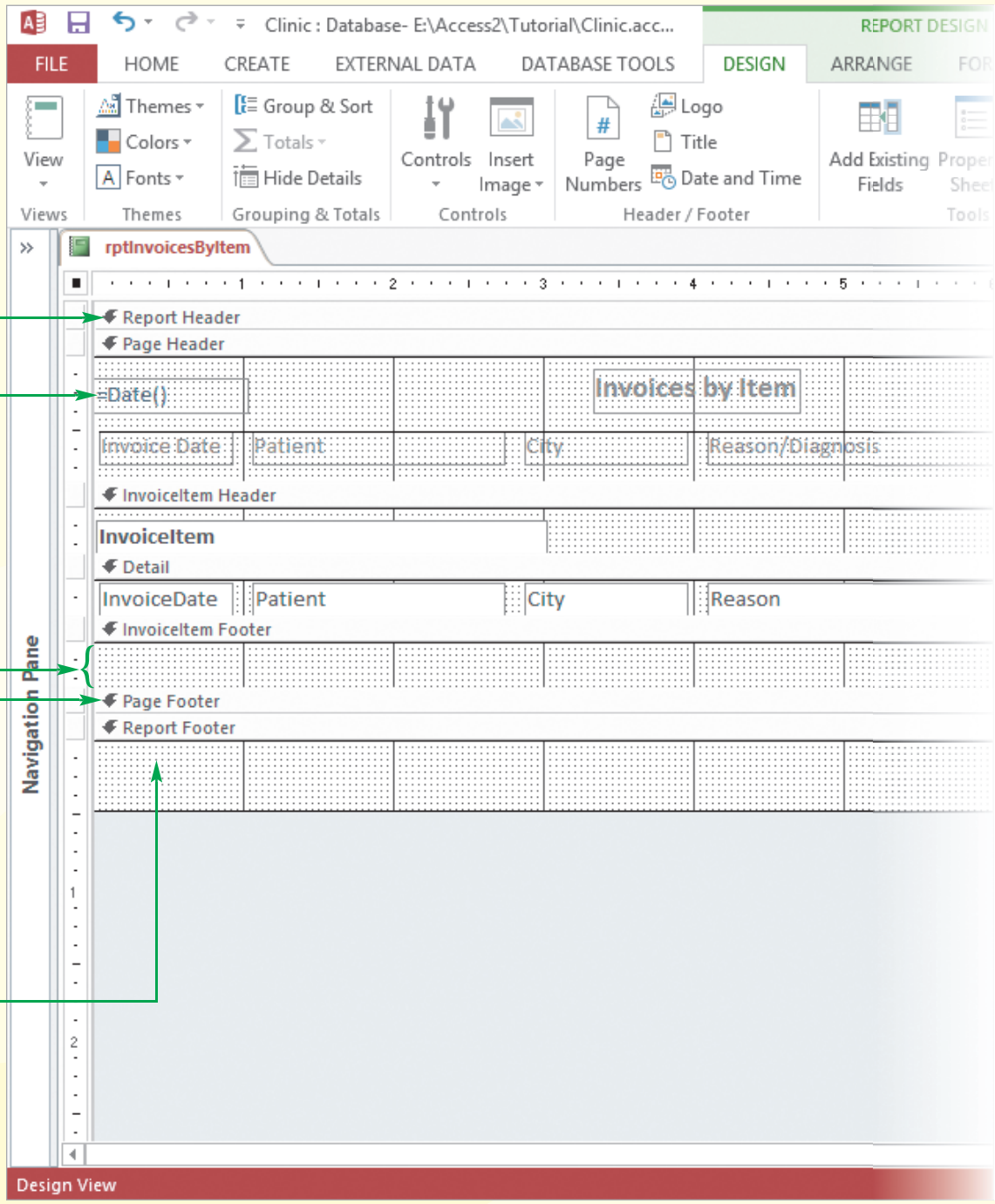
The contents in the Report Header section appear at the top of the first page of the report. This Report Header section has a height of 0 and no contents.

The **Date function** will display the current date.

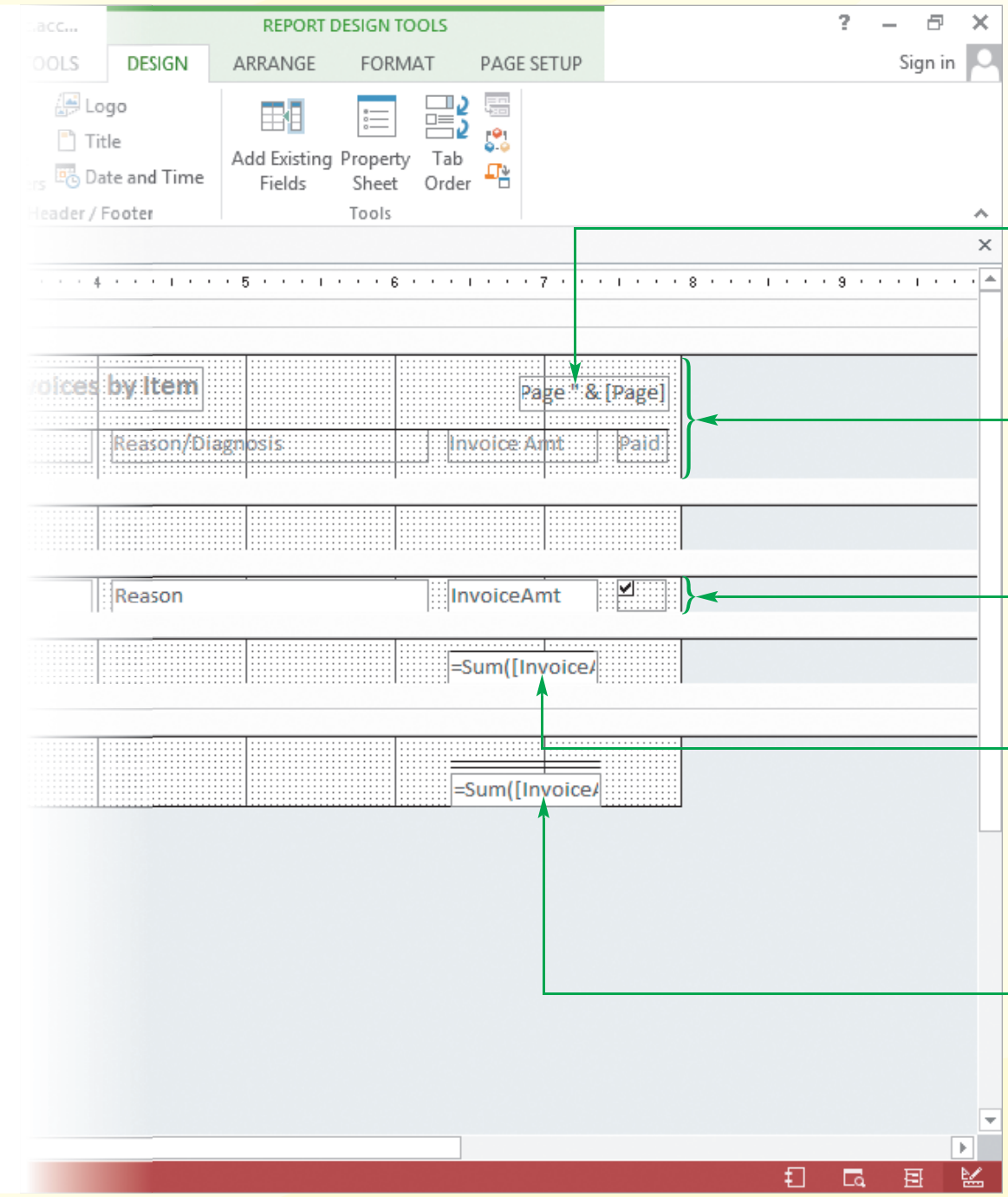
The Group Footer section contents appear at the bottom of each group.

The Page Footer section contents appear at the bottom of every page. This Page Footer section has 0 height and no contents.

The Report Footer section contents appear at the bottom of the last page of the report.



Custom report in Design view



The page number expression will display the word "Page" and the page number.

The contents in the Page Header section appear at the top of every page.

The Detail Section contains the controls that will be displayed on every page. This usually makes up most of the report contents.

The =Sum([InvoiceAmt]) expression in the Group Footer section calculates the total of the values in the InvoiceAmt column for each InvoiceItem group.

The =Sum([InvoiceAmt]) expression in the Report Footer section calculates the total of the values in the InvoiceAmt column for the entire report.

Adding the Date to a Report

According to Raj's design, the rptInvoicesByItem report includes the date in the Page Header section, along with the report title, the page number, the column heading labels, and a line below the labels.

PROSKILLS

Written Communication: Placing the Report Title, Date, and Page Number in the Page Header Section

When you use the Report tool or the Report Wizard to create a report, the report title is displayed in the Report Header section and the page number is displayed in the Page Footer section. Recall that the Report header and footer appear only once, at the top and bottom of the report, respectively. The Page Header appears at the top of every page in the report and the Page Footer appears at the bottom of every page in the report. The date (and time) is displayed in the Report Header section when you use the Report tool and in the Page Footer section when you use the Report Wizard. Because report formatting guidelines require that all the reports in a database display controls in consistent positions, you have to move the date control for reports created by the Report tool or by the Report Wizard so the date is displayed in the same section for all reports.

Although company standards vary, a common report standard places the report title, date, and page number on the same line in the Page Header section. Using one line saves vertical space in the report compared to placing some controls in the Page Header section and others in the Page Footer section. Placing the report title in the Page Header section, instead of in the Report Header section, allows users to identify the report name on any page without having to turn to the first page. When you develop reports with a consistent format, the report users become more productive and more confident working with the information in the reports.

To add the date to a report, you can click the Date and Time button on the DESIGN tab in the Header/Footer group, and Access will insert the Date function in a text box without an attached label at the right edge of the Report Header section. The Date function returns the current date. The format of the Date function is *=Date()*. The equal sign (=) indicates that what follows it is an expression; *Date* is the name of the function; and the empty set of parentheses indicates a function rather than simple text.

REFERENCE

Adding the Date and Time to a Report

- Display the report in Layout or Design view.
- In Design view or in Layout view, on the DESIGN tab, in the Header/Footer group, click the Date and Time button to open the Date and Time dialog box.
- To display the date, click the Include Date check box, and then click one of the three date option buttons.
- To display the time, click the Include Time check box, and then click one of the three time option buttons.
- Click the OK button.

In Raj's design for the report, the date appears at the left edge of the Page Header section. You'll add the date to the report, and then cut the date from its default location in the Report Header section and paste it into the Page Header section.

To add the date to the Page Header section:

1. If you took a break after the previous session, make sure that the Clinic database is open, that the rptInvoicesByItem report is open, and that the Navigation Pane is closed.

   You can add the current date in Layout view or Design view. However, because you can't cut and paste controls between sections in Layout view, you'll add the date in Design view. First, you'll move the column heading labels down in the Page Header section to make room for the controls you'll be adding above them.

2. Switch to Design view, increase the height of the Page Header section by dragging down the bottom of the Page Header border until the 1-inch mark on the vertical ruler appears, select all six labels in the Page Header section, and then move the labels down until the tops of the labels are at the 0.5-inch mark on the vertical ruler. You may find it easier to use the arrow keys to position the labels, rather than the mouse.

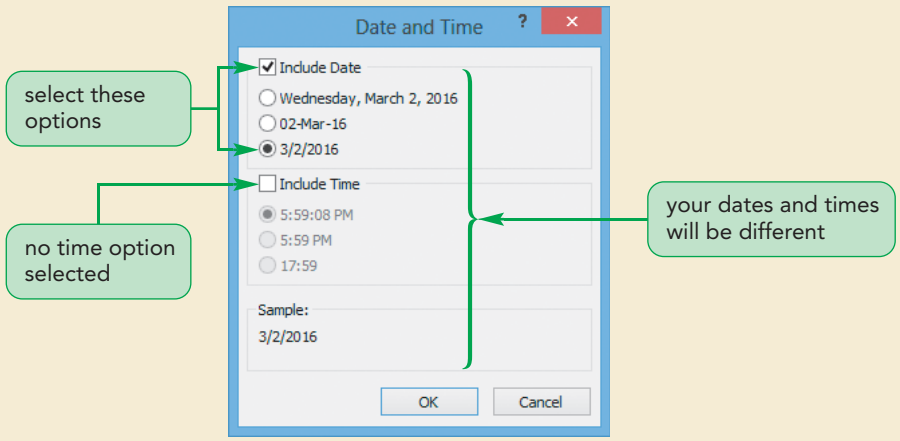
   Raj's report design has a horizontal line below the labels. You'll add this line next.

3. On the DESIGN tab, in the Controls group, click the **More** button, click the **Line** tool, position the pointer's plus symbol (+) one grid dot below the lower-left corner of the Invoice Date label in the Page Header section, hold down the **Shift** key, drag a horizontal line from left to right so the end of the line aligns with the right edge of the Paid label, release the mouse button, and then release the **Shift** key.

4. Reduce the height of the Page Header section by dragging the bottom of the section up until it touches the bottom of the line you just added.

5. On the DESIGN tab, in the Header/Footer group, click the **Date and Time** button to open the Date and Time dialog box, make sure the **Include Date** check box is checked and the **Include Time** check box is unchecked, and then click the third date option button. See Figure 7-26.

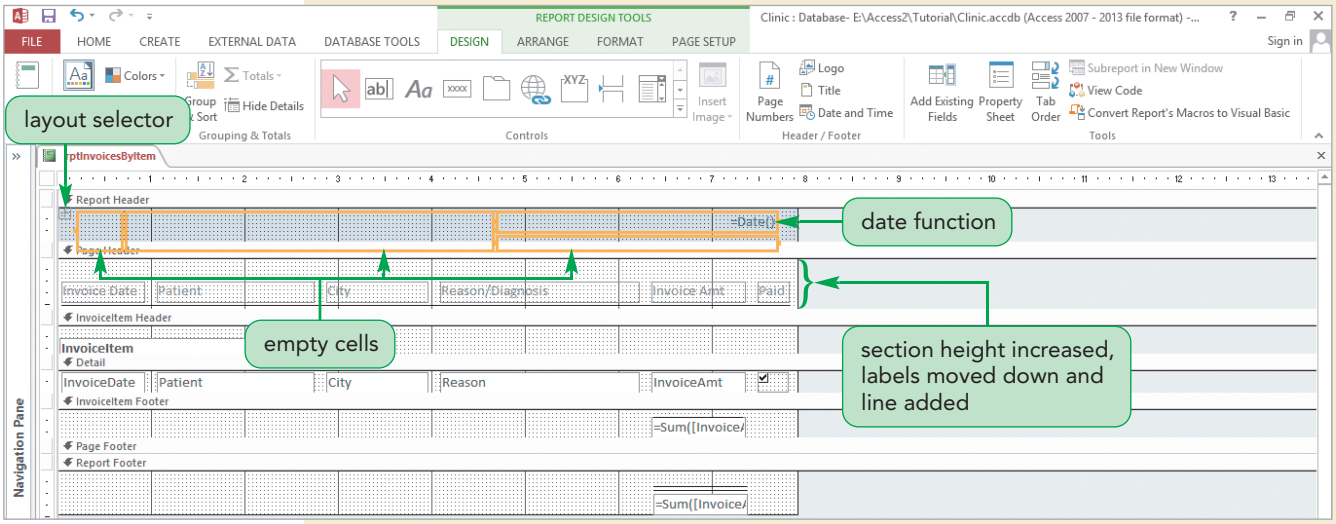
Figure 7-26 Completed Date and Time dialog box



6. Click the **OK** button. The Date function is added to the Report Header section.

7. Click the **Date function** text box, and then click the **layout selector** in the upper-left corner of the Report Header section. The Date function text box is part of a control layout with three additional boxes, which are empty cells. See Figure 7-27.

Figure 7-27 **Date function added to the Report Header section**



You need to remove these controls from the control layout before you work further with the Date function text box.

8. Right-click one of the selected controls, point to **Layout** on the shortcut menu, and then click **Remove Layout**. The three empty cells are deleted, and the Date function text box remains selected.

The default size for the Date function text box accommodates long dates and long times, so the text box is much wider than needed for the date that will appear in the custom report. You'll decrease its width and move it to the Page Header section.

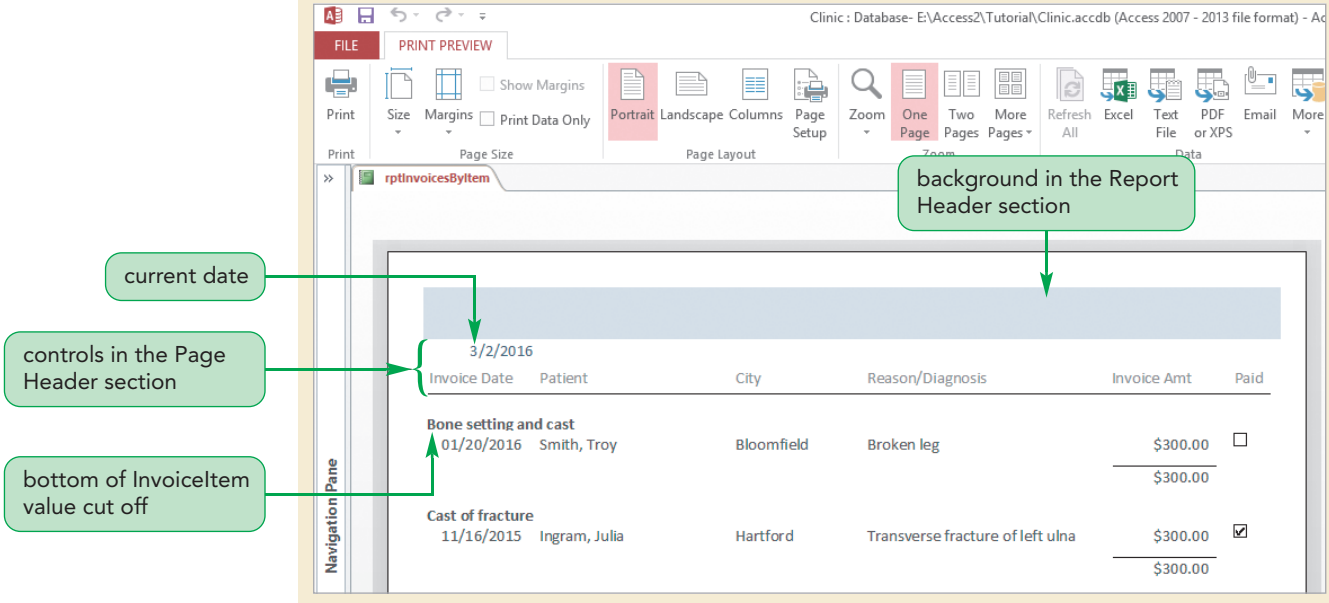
TIP

If a report includes a control with the Date function, the current date will be displayed each time the report is run. If you instead want a specific date to appear each time the report is run, use a label control that contains the date, rather than the Date function.

9. Decrease the width of the Date function text box from the left until it is one inch wide, right-click an edge of the **Date function** text box to open the shortcut menu, click **Cut** to delete the control, right-click the **Page Header** section bar to select that section and open the shortcut menu, and then click **Paste**. The Date function text box is pasted in the upper-left corner of the Page Header section.

10. Save your report changes, and then switch to Print Preview to view the date in the Page Header section. See Figure 7-28.

Figure 7-28 **Viewing the date in Print Preview**



Trouble? Your year might appear with two digits instead of four digits as shown in Figure 7-28. Your date format might also differ, depending on your computer's date settings. These differences do not cause any problems.

Next you'll left-align the date in the text box in Design view.

11. Switch to Design view, make sure the Date function text box is selected, click the **FORMAT** tab, and then in the Font group, click the **Align Left** button.

Finally, notice that when you bolded the font in the InvoiceItem text box, you increased the size of the characters. You need to increase the height of the text boxes to fully display all characters in the text box.

12. Click the **InvoiceItem** text box, and then increase the height of the text box from the top by one row of grid dots.

INSIGHT

Choosing a Theme for a Database

Access has nine themes that you can use to set the font type and size and the color and other effects for the objects in a database. The default theme is the Office theme, which uses Calibri 11 font. You should either use the default theme or choose a theme immediately after creating the first table in the database. If you wait to choose a theme until after you've created a large number of objects in the database, the theme you choose will probably have a font different from Calibri 11, and you'll have to go back and resize the table and query datasheets and the form and report text boxes and labels.

You are now ready to add page numbers to the Page Header section. You'll also delete the empty Report Header section by decreasing its height to zero.

Adding Page Numbers to a Report

You can display page numbers in a report by including an expression in the Page Header or Page Footer section. In Layout view or Design view, on the DESIGN tab, you can click the Page Numbers button in the Header/Footer group to add a page number expression to a report. The inserted page number expression automatically displays the correct page number on each page of a report.

REFERENCE

Adding Page Numbers to a Report

- Display the report in Layout or Design view.
- In Design view or in Layout view, on the DESIGN tab, in the Header/Footer group, click the Page Numbers button to open the Page Numbers dialog box.
- Select the format, position, and alignment options you want.
- Select whether you want to display the page number on the first page.
- Click the OK button to place the page number expression in the report.

Raj's design shows the page number displayed on the right side of the Page Header section, bottom-aligned with the date.

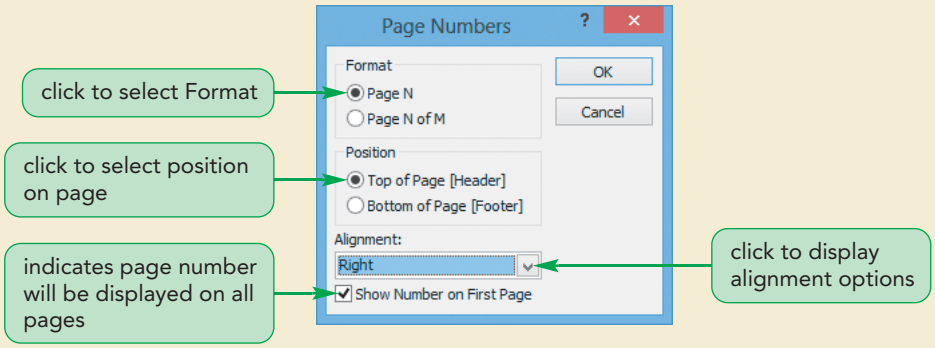
To add page numbers to the Page Header section:

1. In the Report Header section, drag the bottom border up to the top of the section so the section's height is reduced to zero.
2. Click the **DESIGN tab**, and then in the Header/Footer group, click the **Page Numbers** button. The Page Numbers dialog box opens.

   You use the Format options to specify the format of the page number. Raj wants page numbers to appear as Page 1, Page 2, and so on. This is the "Page N" format option. You use the Position options to place the page numbers at the top of the page in the Page Header section or at the bottom of the page in the Page Footer section. Raj's design shows page numbers at the top of the page.
3. In the Format section, make sure that the **Page N** option button is selected, and then in the Position section, make sure that the **Top of Page [Header]** option button is selected.

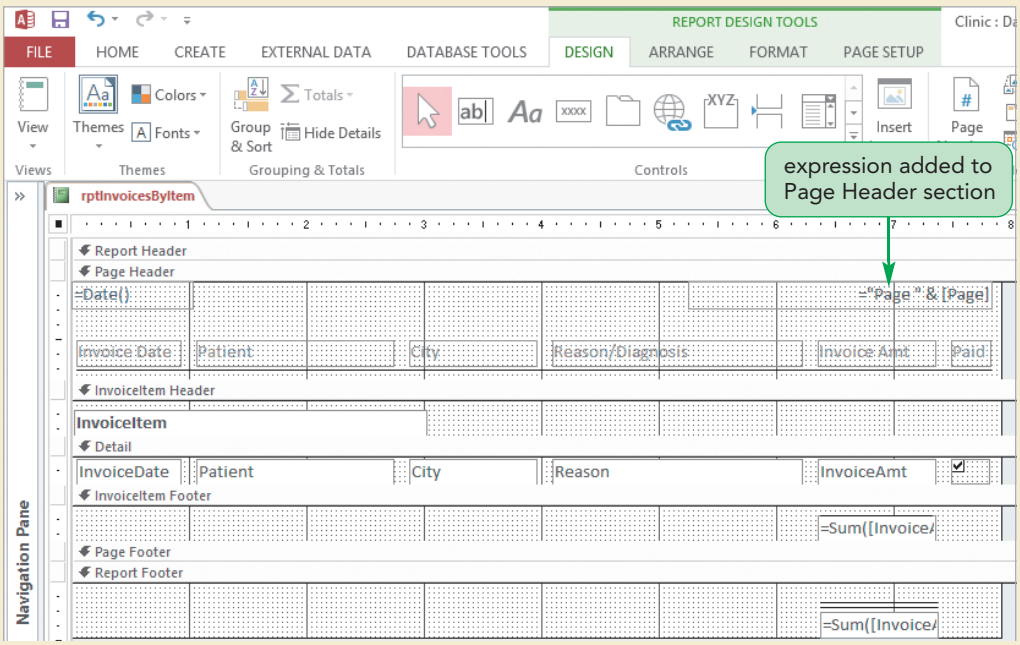
   The report design shows page numbers at the right side of the page. You can specify this placement in the Alignment box.
4. Click the **Alignment** arrow, and then click **Right**.
5. Make sure the **Show Number on First Page** check box is checked, so the page number prints on the first page and all other pages as well. See Figure 7-29.

Figure 7-29 **Completed Page Numbers dialog box**



6. Click the **OK** button. A text box containing the expression *="Page " & [Page]* appears in the upper-right corner of the Page Header section. See Figure 7-30. The expression *="Page " & [Page]* in the text box means that the printed report will show the word "Page" followed by a space and the page number.

Figure 7-30 **Page number expression added to the Page Header section**

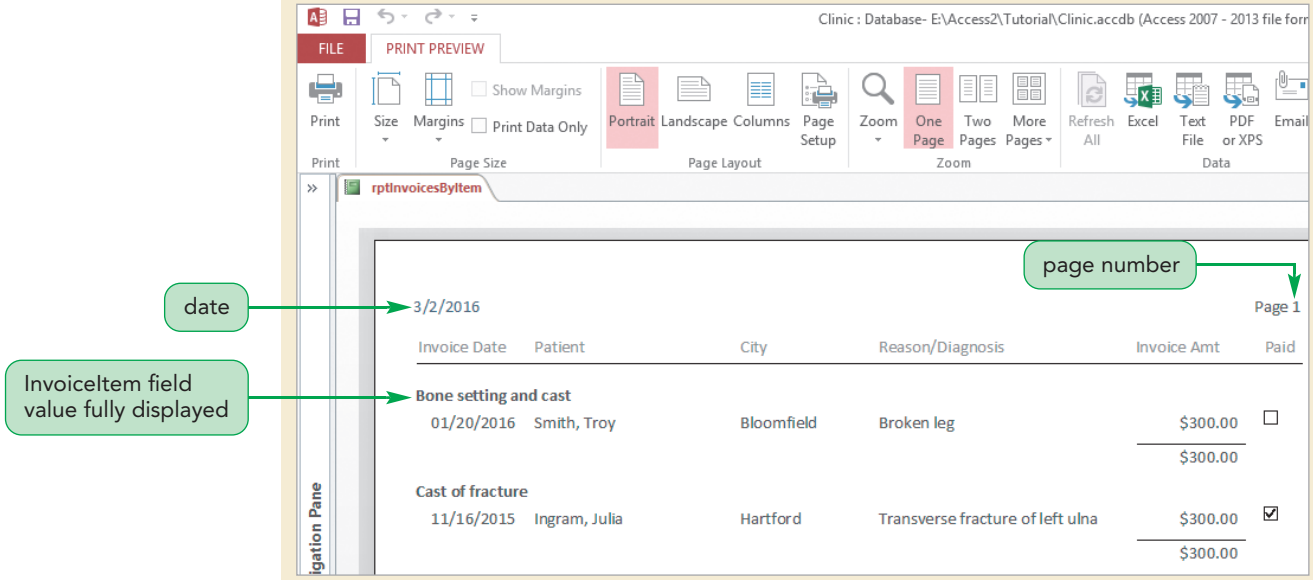


The page number text box is much wider than needed for the page number expression that will appear in the custom report. You'll decrease its width.

7. Click the **Page Number** text box, decrease its width from the left until it is one inch wide, and then move it to the left so its right edge aligns with the right edge of the Paid text box.

8. Save your report changes, and then switch to Print Preview. See Figure 7-31.

Figure 7-31 Date and page number in the Page Header section



Now you are ready to add the title to the Page Header section.

Adding a Title to a Report

TIP

All reports should contain a title, either in the Report Header section to display only on the first page, or in the Page Header section to display on all pages.

Raj's report design includes the title "Invoices by Item," which you'll add to the Page Header section centered between the date and the page number. You could use the Title button on the DESIGN tab in the Header/Footer group to add the report title, but Access adds the title to the Report Header section, and Raj's design positions the title in the Page Header section. It will be easier to use the Label tool to add the title directly in the Page Header section.

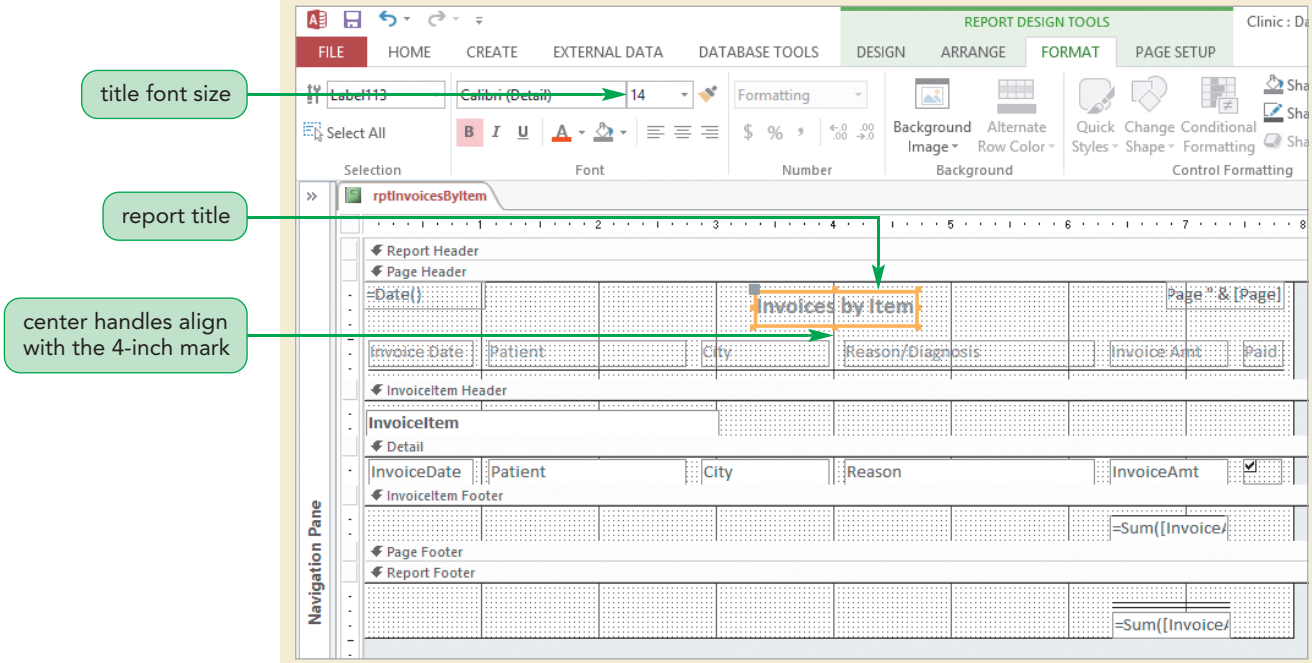
To add the title to the Page Header section:

1. Close Print Preview and switch to Design view.
2. On the DESIGN tab, in the Controls group, click the **Label** tool Aa, position the pointer's plus symbol (+) at the top of the Page Header section at the 3-inch mark on the horizontal ruler, and then click the mouse button. The insertion point flashes inside a narrow box, which will expand as you type the report title.

   To match Raj's design, you need to type the title as "Invoices by Item," and then change its font size to 14 points and its style to bold.
3. Type **Invoices by Item**, and then press the **Enter** key.

4. Click the **FORMAT** tab, in the Font group click the **Font Size** arrow, click **14**, and then click the **Bold** button B. Increase the width of the label to fit the title, increase the height by two grid dots and move the label to the right so it is centered at the 4-inch mark. See Figure 7-32.

Figure 7-32 **Report title in the Page Header section**



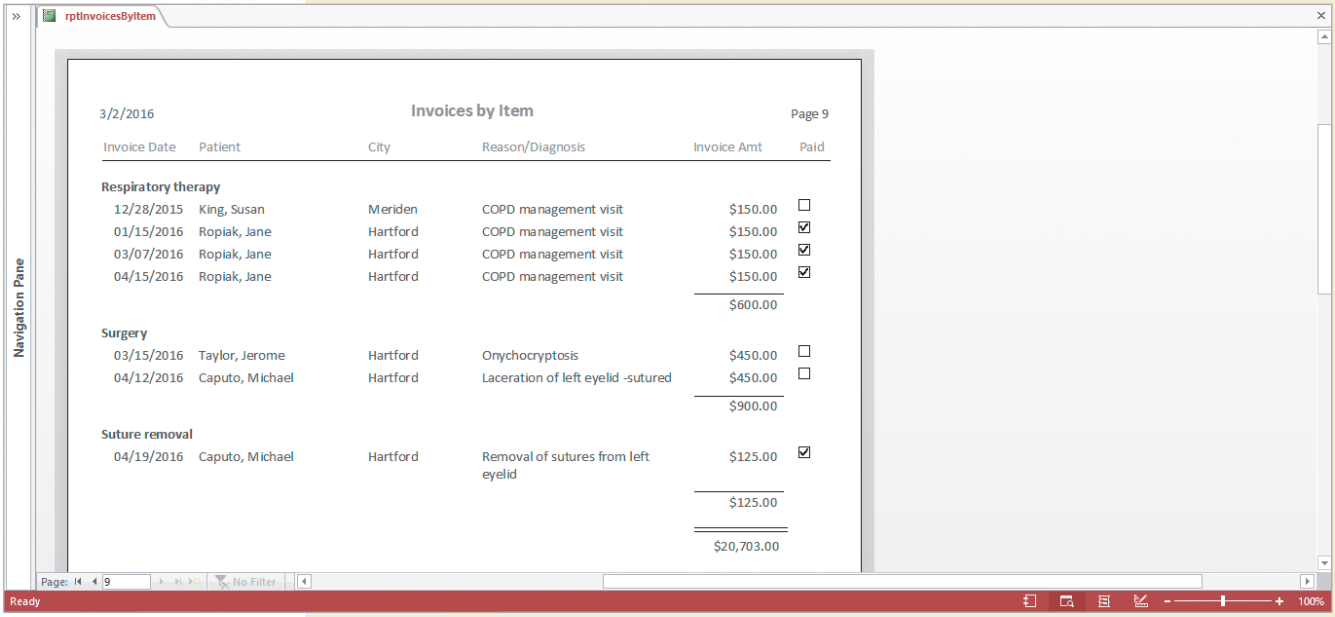
Finally, you'll align the date, report title, and page number controls on their bottom edges. Yours may be aligned already, but if not, this step will align the controls.

5. Select the date, report title, and page number controls in the Page Header section, right-click one of the selected controls, point to **Align**, and then click **Bottom**.

6. Save your report changes. You have completed the design of the custom report as shown in the Session 7.3 Visual Overview.

7. Switch to Print Preview to review the completed report, and then navigate to the top of the last page of the report to view your changes. See Figure 7-33.

Figure 7-33 **Completed rptInvoicesByItem report in Print Preview**



3/2/2016 Invoices by Item Page 9

Invoice Date	Patient	City	Reason/Diagnosis	Invoice Amt	Paid
Respiratory therapy					
12/28/2015	King, Susan	Meriden	COPD management visit	$150.00	☐
01/15/2016	Ropiak, Jane	Hartford	COPD management visit	$150.00	☑
03/07/2016	Ropiak, Jane	Hartford	COPD management visit	$150.00	☑
04/15/2016	Ropiak, Jane	Hartford	COPD management visit	$150.00	☑
				$600.00	
Surgery					
03/15/2016	Taylor, Jerome	Hartford	Onychocryptosis	$450.00	☐
04/12/2016	Caputo, Michael	Hartford	Laceration of left eyelid -sutured	$450.00	☐
				$900.00	
Suture removal					
04/19/2016	Caputo, Michael	Hartford	Removal of sutures from left eyelid	$125.00	☑
				$125.00	
				$20,703.00	

8. Close the report.

Next, Sarah wants you to create mailing labels that she can use to address materials to Chatham Community Health Services patients.

Creating Mailing Labels

Sarah needs a set of mailing labels printed for all Patients so she can mail a marketing brochure and other materials to them. The tblPatient table contains the name and address information that will serve as the record source for the labels. Each mailing label will have the same format: first name and last name on the first line; address on the second line; and city, state, and zip code on the third line.

You could create a custom report to produce the mailing labels, but using the Label Wizard is an easier and faster way to produce them. The **Label Wizard** provides templates for hundreds of standard label formats, each of which is uniquely identified by a label manufacturer's name and number. These templates specify the dimensions and arrangement of labels on each page. Standard label formats can have between one and five labels across a page; the number of labels printed on a single page also varies. Sarah's mailing labels are manufactured by Avery and their product number is C2163. Each sheet contains twelve labels; each label is 1.5 inches by 3.9 inches, and the labels are arranged in two columns and six rows on the page.

REFERENCE

Creating Mailing Labels and Other Labels

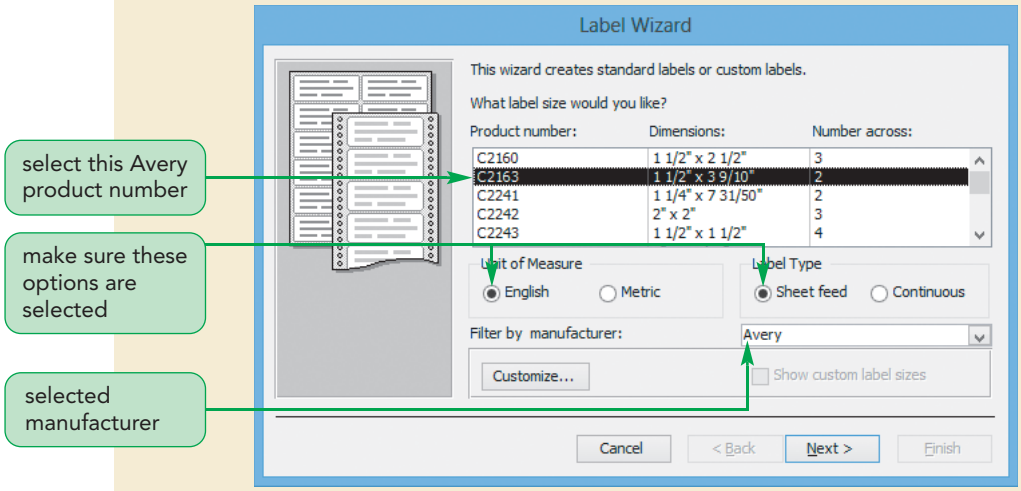
- In the Navigation Pane, click the table or query that will serve as the record source for the labels.
- In the Reports group on the CREATE tab, click the Labels button to start the Label Wizard and open its first dialog box.
- Select the label manufacturer and product number, and then click the Next button.
- Select the label font, color, and style, and then click the Next button.
- Construct the label content by selecting the fields from the record source and specifying their placement and spacing on the label, and then click the Next button.
- Select one or more optional sort fields, click the Next button, specify the report name, and then click the Finish button.

You'll use the Label Wizard to create a report to produce mailing labels for all patients.

To use the Label Wizard to create the mailing label report:

1. Open the Navigation Pane, click **tblPatient** to make it the current object that will serve as the record source for the labels, close the Navigation Pane, and then click the **CREATE tab**.
2. In the Reports group, click the **Labels** button. The first Label Wizard dialog box opens and asks you to select the standard or custom label you'll use.
3. In the Unit of Measure section make sure that the **English** option button is selected, in the Label Type section make sure that the **Sheet feed** option button is selected, in the Filter by manufacturer box make sure that **Avery** is selected, and then in the Product number box click **C2163**. See Figure 7-34.

Figure 7-34 Selecting a standard label



TIP

If your label manufacturer or its labels do not appear in the box, you can create your own custom format for them.

Because the labels are already filtered for products manufactured by Avery, the top box shows the Avery product number, dimensions, and number of labels across the page for each of its standard label formats. You can display the dimensions in the list in either inches or millimeters by choosing the appropriate option in the Unit of Measure section. You can also specify in the Label Type section whether the labels are on individual sheets or are continuous forms.

4. Click the **Next** button to open the second Label Wizard dialog box, in which you choose font specifications for the labels.

   Kelly wants the labels to use 10-point Arial with a medium font weight and without italics or underlines. The font weight determines how light or dark the characters will print; you can choose from nine values ranging from thin to heavy.

5. If necessary, select **Arial** for the font name, **10** for the font size, and **Medium** for the font weight, make sure the Italic and the Underline check boxes are not checked and that black is the text color, and then click the **Next** button. The third Label Wizard dialog box opens, from which you select the data to appear on the labels.

   Kelly wants the mailing labels to print the FirstName and LastName fields on the first line, the Address field on the second line, and the City, State, and Zip fields on the third line. A single space will separate the FirstName and LastName fields, the City and State fields, and the State and Zip fields.

TIP

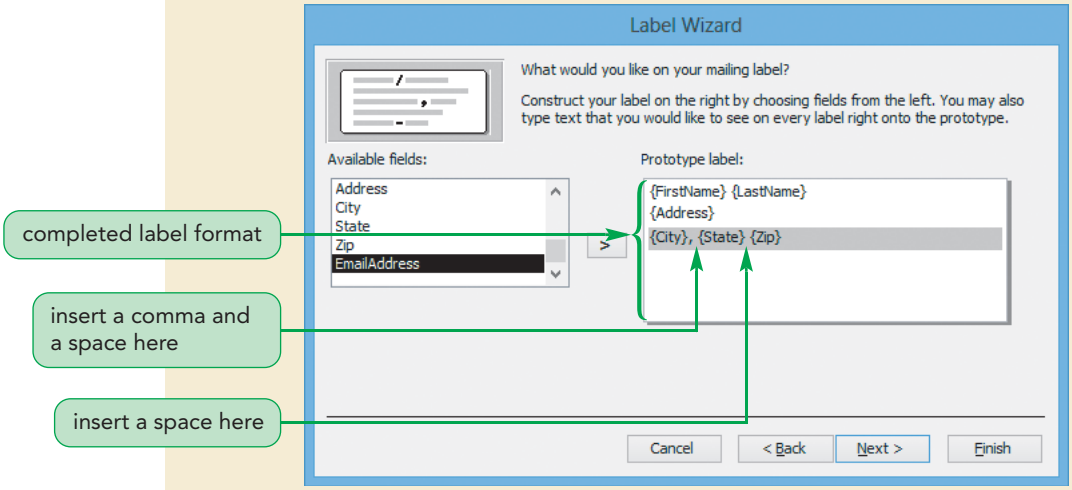
As you select fields from the Available fields box or type text for the label, the Prototype label box shows the format for the label.

6. In the Available fields box click **FirstName**, click the > button to move the field to the Prototype label box, press the **spacebar**, in the Available fields box click **LastName** (if necessary), and then click the > button. The braces around the field names in the Prototype label box indicate that the name represents a field rather than text that you entered.

   Trouble? If you select the wrong field or type the wrong text, click the incorrect item in the Prototype label box, press the Delete key to remove the item, and then select the correct field or type the correct text.

7. Press the **Enter** key to move to the next line in the Prototype label box, and then use Figure 7-35 to complete the entries in the Prototype label box. Make sure you press the spacebar after selecting the City field and the State field.

Figure 7-35 **Completed label prototype**



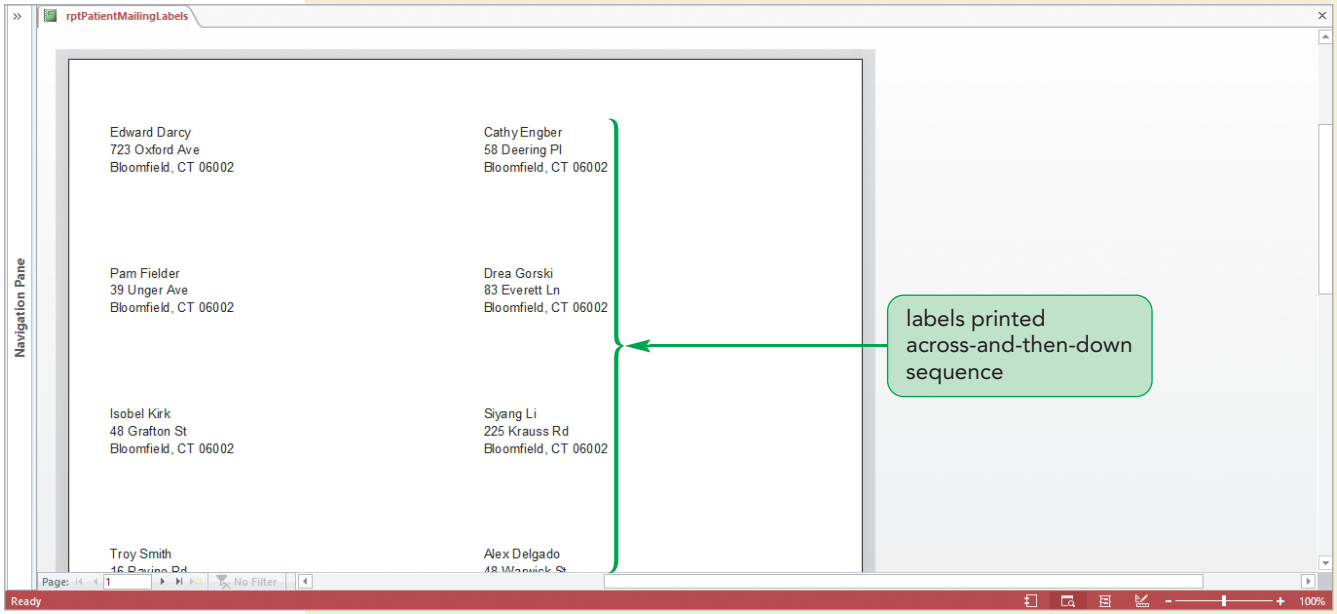
8. Click the **Next** button to open the fourth Label Wizard dialog box, in which you choose the sort fields for the labels.

   Kelly wants Zip to be the primary sort field and LastName to be the secondary sort field.

9. Scroll down the list and click the **Zip** field, click the > button to select Zip as the primary sort field, click the **LastName** field, click the > button to select LastName as the secondary sort field, and then click the **Next** button to open the last Label Wizard dialog box, in which you enter a name for the report.

10. Change the report name to **rptPatientMailingLabels**, and then click the **Finish** button. Access saves the report as rptPatientMailingLabels and then opens the first page of the report in Print Preview. Note that two columns of labels appear across the page. See Figure 7-36.

Figure 7-36 **Previewing the label content and sequence**



The rptPatientMailingLabels report is a multiple-column report. The labels will be printed in ascending order by zip code and, within each zip code, in ascending order by last name. The first label will be printed in the upper-left corner on the first page, the second label will be printed to its right, the third label will be printed below the first label, and so on. This style of multiple-column report is the "across, then down" layout. Instead, Kelly wants the labels to print with the "down, then across" layout because she prefers to pull the labels from the sheet in this manner. In this layout, the first label is printed, the second label is printed below the first, and so on. After the bottom label in the first column is printed, the next label is printed at the top of the second column. The "down, then across" layout is also called **newspaper-style columns**, or **snaking columns**.

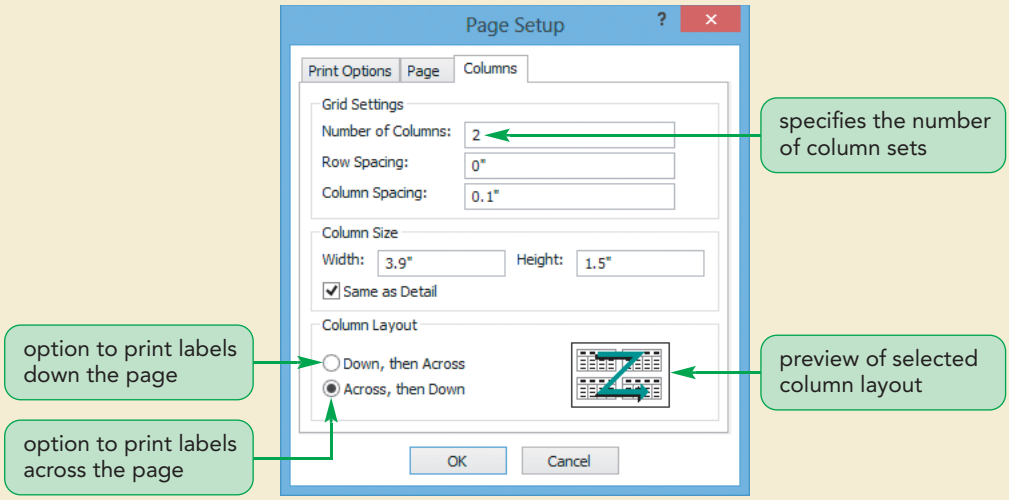
To change the layout of the mailing label report:

1. Close Print Preview and switch to Design view. The Detail section, the only section in the report, is sized for a single label.

   First, you'll change the layout to snaking columns.

2. Click the **PAGE SETUP** tab, in the Page Layout group click the **Page Setup** button, and then click the **Columns** tab. The Page Setup dialog box displays the column options for the report. See Figure 7-37.

Figure 7-37 **Column options in the Page Setup dialog box**



TIP

When you select a label using a manufacturer's name and product code, the options in the dialog box are set automatically.

The options in the Page Setup dialog box let you change the properties of a multiple-column report. In the Grid Settings section, you specify the number of column sets and the row and column spacing between the column sets. In the Column Size section, you specify the width and height of each column set. In the Column Layout section, you select between the "down, then across" and the "across, then down" layouts.

You can now change the layout for the labels.

3. Click the **Down, then Across** option button, and then click the **OK** button.

You've finished the report changes, so you can now save and preview the report.

4. Save your report design changes, and then switch to Print Preview. The labels appear in the snaking columns layout.

You've finished all work on Kelly's reports.

5. Close the report, make a backup copy of the database, compact and repair the database, and then close it.

Kelly is very pleased with the modified report and the two new reports, which will provide her with improved information and help expedite her written communications with patients.

REVIEW

Session 7.3 Quick Check

1. What is the function and syntax to print the current date in a report?
2. How do you insert a page number in the Page Header section?
3. Clicking the Title button in the Header/Footer group on the DESIGN tab adds a report title to the _____ section.
4. What is a multiple-column report?

ASSESS

SAM Projects

Put your skills into practice with SAM Projects! SAM Projects for this tutorial can be found online. If you have a SAM account, go to www.cengage.com/sam2013 to download the most recent Project Instructions and Start Files.

PRACTICE

Review Assignments

Data File needed for the Review Assignments: Supplier.accdb (*cont. from Tutorial 6*)

Kelly wants you to create a custom report for the Supplier database that prints all companies and the products they offer. She also wants you to customize an existing report. Complete the following steps:

1. Open the **Supplier** database you worked with in Tutorials 5 and 6.
2. Modify the **rptSupplierDetails** report by completing the following steps:
   a. Change the report title to **Chatham Suppliers**.
   b. Remove the alternate row color from the detail lines in the report.
   c. Change the fourth column heading to First Name and the fifth column heading to Last Name.
   d. In the Report Footer section, add a grand total count of the number of suppliers that appear in the report, make sure the text box control has a transparent border, and left-align the count with the left edge of the CompanyName text box. Left-align the count value in the text box.
   e. Add a label that contains the text **Suppliers:** to the left of the count of the total number of suppliers, aligned to the left margin, and aligned with the bottom of the count text box.
   f. Set the Margins to Normal, and adjust the width of the grid to 7.8 inches. Extend the width of the controls in the Report Header to one grid point to the left of the width of the right margin. Increase the width of the Company header label and CompanyName detail text box to approximately double, until the Contact Last Name controls are one grid dot to the left of the right margin.
   g. Move the page number text box control to the right until it is one grid dot to the left of the right margin. Right-align the page number value in the text box control.
3. After you've completed and saved your modifications to the rptSupplierDetails report, filter the report in Report view, selecting all records that contain the word "surgical" in the Company field. Copy the entire filtered report and paste it into a new Word document. Save the document as **surgical** in the Access2 ▸ Review folder. Close Word, save your changes to the Access report, and then close it.
4. Create a query that displays the CompanyName and Category fields from the tblSupplier table, and the ProductName, Price, and Units fields from the tblProduct table. Sort in ascending order by the first three fields in the query, and then save the query as **qrySupplierProducts**.
5. Create a custom report based on the qrySupplierProducts query. Figure 7-38 shows a sample of the completed report. Refer to the figure as you create the report. Distribute the fields horizontally to produce a visually balanced report.

Figure 7-38 **Products database custom report**

rptProductsAvailable

01-Mar-16 **Products Available** Page 1

Product Name	Company Name	Price	Units/Case
Equipment			
Vital signs monitor	McHugh Electronics, LLC	6,000.00	
Ultrasonic cleaner		1,800.00	
Digital thermometer		98.00	1
Disposable thermometer covers		55.00	100
Microscope		3,000.00	
EKG machine		4,000.00	
Centrifuge		5,000.00	
Autoclave		5,000.00	
Service			
Biological waste processing - per ton	Carley Medical Waste Processors, LLC	365.00	
Supplies			
Urine test strips	Bantam BioMed, LLC	470.00	1000
Xray film	Barclay & Song, LLC	85.00	100
Urine collection cup		50.00	200
Sharps container - 3 gallon		20.00	1
Sharps container - 1 qt		40.00	20

Navigation Pane

Report View

a. Save the report as **rptProductsAvailable**.
b. Use the Category field (from the tblSupplier table) as a grouping field, and use the CompanyName field (from the tblSupplier table) as a sort field.
c. Hide duplicate values for the CompanyName field.
d. Keep the whole group together on one page.
e. Remove the text box borders.
f. Remove the alternate row color from the group header and detail line.
g. Add a Page title **Products Available** using 14-point font, centered horizontally.
h. Apply a text filter for companies that contain "LLC" in the Company Name.

6. Create a mailing label report according to the following instructions:
   a. Use the tblSupplier table as the record source.
   b. Use Avery C2160 labels, and use the default font, size, weight, and color.
   c. For the prototype label, add the ContactFirstName, a space, and ContactLastName on the first line; the CompanyName on the second line; the Address on the third line; and the City, a comma and a space, State, a space, and Zip on the fourth line.
   d. Sort by Zip and then by CompanyName, and then enter the report name **rptCompanyMailingLabels**.
7. Make a backup copy of the database, compact and repair, and then close the Supplier database.

APPLY

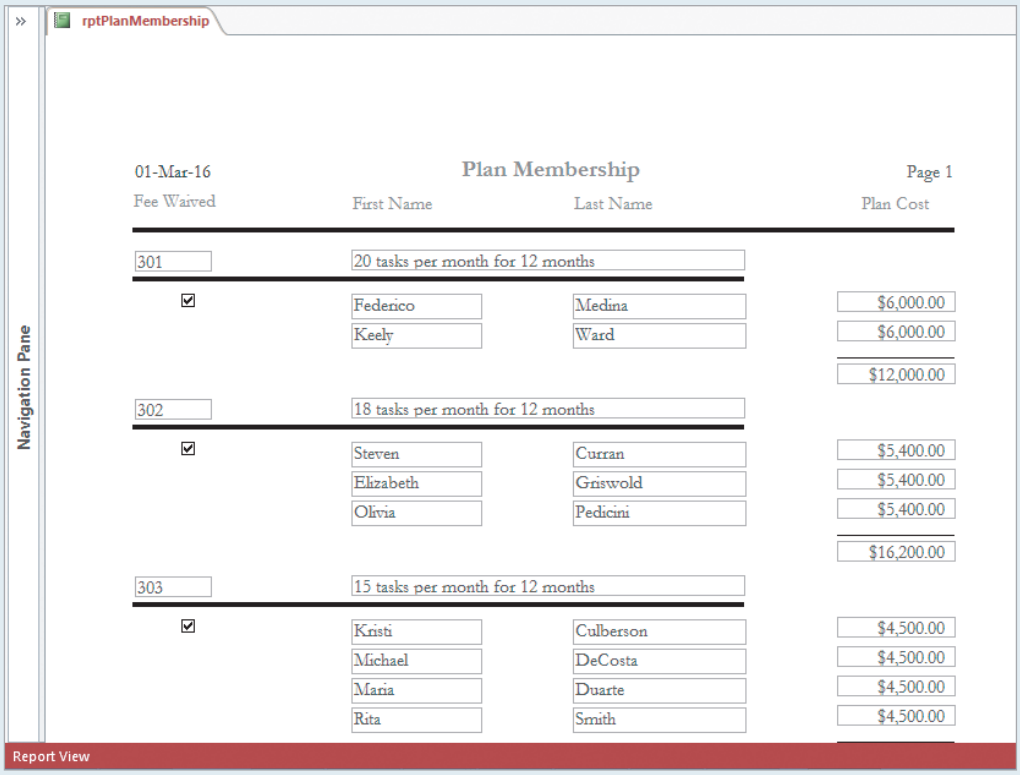
Case Problem 1

Data File needed for this Case Problem: Task.accdb (*cont. from Tutorial 6*)

GoGopher! Amol Mehta wants you to create a custom report and mailing labels for the Gopher database. The custom report will be based on the results of a query you will create. Complete the following steps:

1. Open the **Task** database you worked with in Tutorials 5 and 6.
2. Create a query that displays the PlanID, FeeWaived, PlanDescription, and PlanCost fields from the tblPlan table, and the FirstName, and LastName fields from the tblMember table. Sort in ascending order by the PlanID, FeeWaived, and LastName fields, and then save the query as **qryPlanMembership**.
3. Create a custom report based on the qryPlanMembership query. Figure 7-39 shows a sample of the first page of the completed report. Refer to the figure as you create the report.

Figure 7-39 **Task database custom report**



   a. Save the report as **rptPlanMembership**.
   b. Use the PlanID field as a grouping field.
   c. Select the FeeWaived field as a sort field, and the LastName field as a secondary sort field.
   d. Hide duplicate values for the FeeWaived field.
   e. Add the PlanDescription field to the Group Header section, and then delete its attached label.
   f. Keep the whole group together on one page.
   g. Use Wide margins and spacing to distribute the columns evenly across the page.
   h. Remove the alternate row color for all sections.
   i. Use black font for all the controls, and set the lines' thickness to 3 pt.
4. Use the following instructions to create the mailing labels:
   a. Use the tblMember table as the record source for the mailing labels.
   b. Use Avery C2160 labels, and use the default font, size, weight, and color.
   c. For the prototype label, place FirstName, a space, and LastName on the first line; Street on the second line; and City, a comma and space, State, a space, and Zip on the third line.
   d. Sort by Zip and then by LastName, and then type the report name **rptMemberLabels**.
5. Make a backup copy of the database, compact and repair it, and then close the Task database.

APPLY

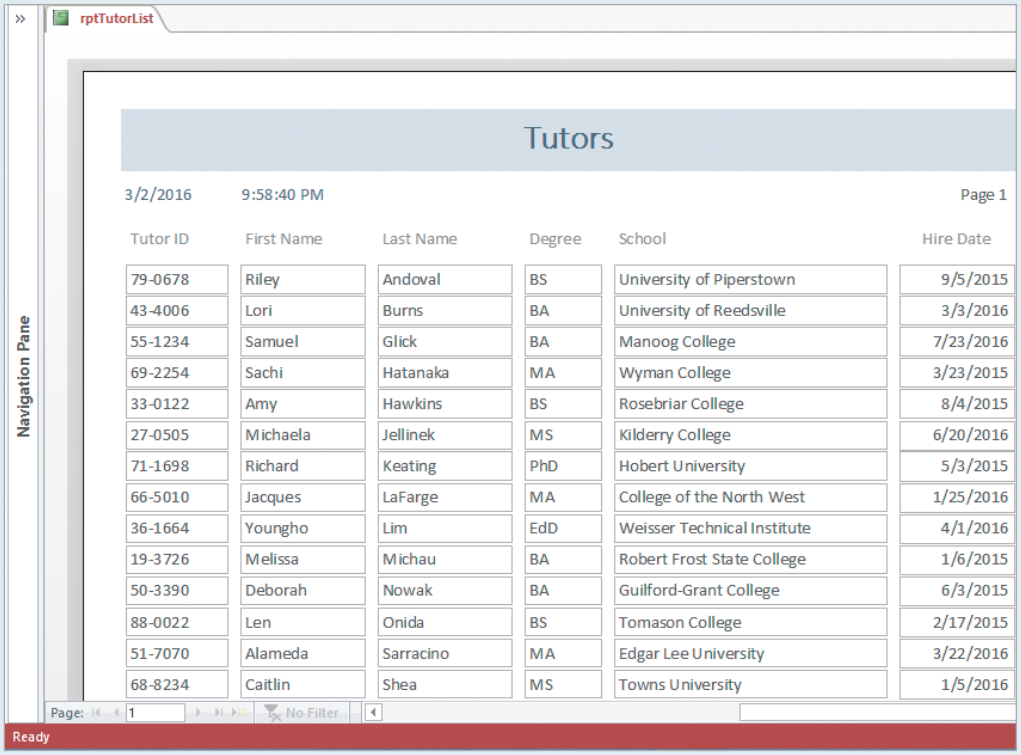
Case Problem 2

Data File needed for this Case Problem: Tutoring.accdb (*cont. from Tutorial 6*)

O'Brien Educational Services Karen O'Brien wants you to modify an existing report and to create a custom report and mailing labels for the Tutoring database. Complete the following steps:

1. Open the **Tutoring** database you worked with in Tutorials 5 and 6.
2. Modify the **rptTutorList** report. Figure 7-40 shows a sample of the last page of the completed report. Refer to the figure as you modify the report.

Figure 7-40 **Tutoring database enhanced report**



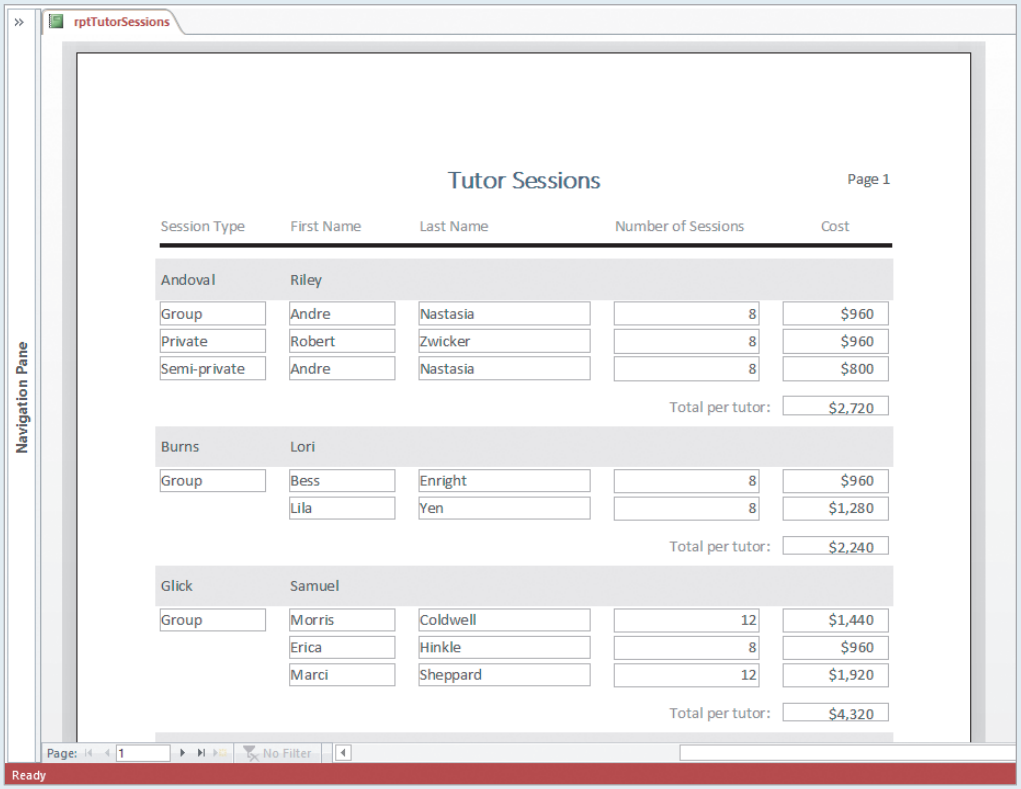
Tutor ID	First Name	Last Name	Degree	School	Hire Date
79-0678	Riley	Andoval	BS	University of Piperstown	9/5/2015
43-4006	Lori	Burns	BA	University of Reedsville	3/3/2016
55-1234	Samuel	Glick	BA	Manoog College	7/23/2016
69-2254	Sachi	Hatanaka	MA	Wyman College	3/23/2015
33-0122	Amy	Hawkins	BS	Rosebriar College	8/4/2015
27-0505	Michaela	Jellinek	MS	Kilderry College	6/20/2016
71-1698	Richard	Keating	PhD	Hobert University	5/3/2015
66-5010	Jacques	LaFarge	MA	College of the North West	1/25/2016
36-1664	Youngho	Lim	EdD	Weisser Technical Institute	4/1/2016
19-3726	Melissa	Michau	BA	Robert Frost State College	1/6/2015
50-3390	Deborah	Nowak	BA	Guilford-Grant College	6/3/2015
88-0022	Len	Onida	BS	Tomason College	2/17/2015
51-7070	Alameda	Sarracino	MA	Edgar Lee University	3/22/2016
68-8234	Caitlin	Shea	MS	Towns University	1/5/2016

a. Delete the picture at the top of the report.
b. Set Normal margins, and a grid width of 7.8 inches.
c. Center the report title and ensure the text is "Tutors", bold and 22 pt.
d. Move the Hire Date column to the right margin, and center the Hire Date label value. Use horizontal spacing to evenly distribute the columns.
e. Remove the alternate row color from the detail lines in the report.
f. Change the page number format from "Page n of m" to "Page n" and align the text to the right.
g. Move the date, time, and page number to the Page Header section.
h. Change the date format to short date and align the text to the left.
i. Add a grand total control that calculates the total number of tutors and add a label with the text "Total Tutors".
j. Sort the tutors by Last Name.

3. Create a query that displays, in order, the LastName and FirstName fields from the tblTutor table, the SessionType field from the tblContract table, the FirstName and LastName fields from the tblStudent table, and the NumSessions and Cost fields from the tblContract table. Sort in ascending order by the first three fields in the query, and then save the query as **qryTutorSessions**.

4. Create a custom report based on the qryTutorSessions query. Figure 7-41 shows a sample of the first page of the completed report. Refer to the figure as you create the report.

Figure 7-41 **Contract database custom report**



   a. Save the report as **rptTutorSessions**.
   b. The LastName field (from the tblTutor table) is a grouping field, and the FirstName field also appears in the Group Header section.
   c. The SessionType field is a sort field, and the LastName field (from the tblStudent table) is a sort field.
   d. Hide duplicate values for the SessionType field.
   e. Use Wide margins and set the grid width to 7 inches. Size fields as shown and distribute horizontally using spacing to create a balanced look.
   f. Set the background color for the grouped header and its controls to Background 2 in the Theme colors.
   g. Use black font for all the controls, setting the lines' thickness to 3 pt.
5. Create a mailing label report according to the following instructions:
   a. Use the tblStudent table as the record source.
   b. Use Avery C2160 labels, use a 12-point font size and use the other default font and color options.
   c. For the prototype label, place FirstName, a space, and LastName on the first line; Address on the second line; and City, a comma and a space, State, a space, and Zip on the third line.
   d. Sort by Zip and then by LastName, and then enter the report name **rptStudentMailingLabels**.
   e. Change the mailing label layout to snaking columns.
6. Make a backup copy of the database, compact and repair it, and then close the Tutoring database.

CREATE

Case Problem 3

Data File needed for this Case Problem: Rosemary.accdb (*cont. from Tutorial 6*)

Rosemary Animal Shelter Ryan Lang asks you to create a custom report for the Rosemary database so that he can better track donations made by donors and to create mailing labels. Complete the following steps:

1. Open the **Rosemary** database you worked with in Tutorials 5 and 6.
2. Create a query that displays the DonationDesc, DonationDate, and DonationValue fields from the tblDonation table, and the FirstName and LastName fields from the tblPatron table. Sort in ascending order by the DonationDesc, DonationDate, and LastName fields, and then save the query as **qryPatronDonations**.
3. Create a custom report based on the qryPatronDonations query. Figure 7-42 shows a sample of the first page of the completed report. Refer to the figure as you create the report.

Figure 7-42 **Rosemary database custom report**

a. Save the report as **rptPatronDonations**.
b. Ryan would like you to use the DonationDesc field as a grouping field; however, it is currently a Long Text field, and you can't group on a Long Text field. Ryan realized that the donation description will always be a short description. In the tblDonation table, change the data type of the DonationDesc field to Short Text.
c. Use the DonationDesc field as a grouping field.
d. Select the DonationDate field as a sort field, and the LastName field as a secondary sort field.
e. Hide duplicate values for the DonationDate field.
f. Use black font for all the controls, and set the lines' thickness to 2 pt.
g. Keep the whole group together on one page.
h. Use Wide margins and set the grid width to 7 inches. Size fields as shown and distribute horizontally, using spacing to create a balanced look.
i. Create a conditional formatting rule for the DonationValue field to display the value in blue, bold font when the amount is more than $200.
j. Make any additional changes to the layout and formatting of the report that are necessary for it to match Figure 7-42.

4. After you've created and saved the rptPatronDonations report, filter the report in Report view, selecting all records that contain the name "Lew" in the LastName field. Copy the entire filtered report and paste it into a new Word document. Save the document as **PatronLew** in the Access2 ▸ Case3 folder. Close Word, and then save and close the Access report.
5. The Rosemary Animal Shelter is having a fundraiser dinner and Ryan would like name tags for the patrons. Use the following instructions to create mailing labels that will be used as name tags:
   a. Use the tblPatron table as the record source for the mailing labels.
   b. Use Avery C2160 labels, and use a font size of 16, with Normal weight, and black color.
   c. For the prototype label, place FirstName, a space, and LastName on the first line.
   d. Sort by LastName, and then type the report name **rptPatronNameTags**.
   e. Change the mailing label layout to snaking columns.
6. Make a backup copy of the database, compact and repair it, and then close it.

CREATE

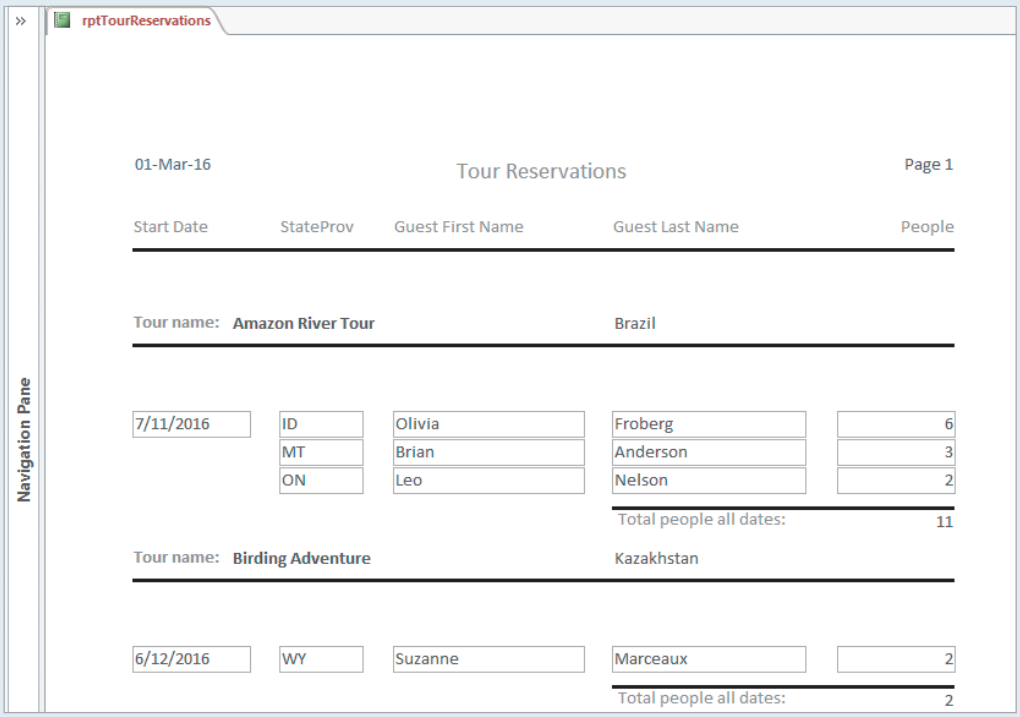
Case Problem 4

Data File needed for this Case Problem: Ecotour.accdb (*cont. from Tutorial 6*)

Stanley EcoTours Janice and Bill Stanley want you to create a custom report and mailing labels for the Ecotour database. Complete the following steps:

1. Open the **Ecotour** database you worked with in Tutorials 5 and 6.
2. Create a query that displays the TourName and Country fields from the tblTour table; the GuestFirst, GuestLast, and StateProv field from the tblGuest table; and the StartDate and People fields from the tblReservation table. Sort in ascending order by the TourName, StateProv, and StartDate fields, and then save the query as **qryTourReservations**.
3. Create a custom report based on the qryTourReservations query. Figure 7-43 shows a sample of the last page of the completed report. Refer to the figure as you create the report.

Figure 7-43 **Ecotour database custom report**



a. Save the report as **rptTourReservations**.
b. Use the TourName field as a grouping field.
c. Select the StartDate field as a sort field, and the StateProv field as a secondary sort field.
d. Hide duplicate values for the StartDate field.
e. Use black font for all the controls, and set the lines' thickness to 2 pt.
f. Keep the whole group together on one page.
g. Add the Country field to the Group Header section.
h. Use Wide margins and set the grid width to 7 inches. Size fields as shown and distribute horizontally, using spacing to create a balanced look.
i. Remove the color for alternate rows, and then make any other layout and formatting changes necessary to match the report shown in Figure 7-43.

4. Use the following instructions to create the mailing labels:
   a. Use the tblGuest table as the record source for the mailing labels.
   b. Use Avery C2163 labels, with 12 point font size, Medium weight, and black color settings.
   c. For the prototype label, place GuestFirst, a space, and GuestLast on the first line; Address on the second line; City, a comma and a space, StateProv, a space, and PostalCode on the third line; and Country on the fourth line.
   d. Sort by PostalCode, then by GuestLastName, and then enter the report name **rptGuestLabels**.
   e. Change the mailing label layout to snaking columns.
5. Make a copy of the rptTourReservations report using the name **rptTourReservationsSummary**, and then customize it according to the following instructions. Figure 7-44 shows a sample of the first page of the completed report.

Figure 7-44 **Ecotour database custom summary report**

a. Delete the column heading labels and line in the Page Header section, and then reduce the height of the section.
b. Add subtotals for the number of reservations and number of people.

6. Make a backup copy of the database, compact and repair it, and then close the Ecotour database.