Forms, Filters, and Reports

OUTCOMES

At the end of this chapter you will be able to:

OBJECTIVES

Mastering these objectives will enable you to:

PROJECT 3A

Create forms to enter and display data in a database.

PROJECT 3B

Create reports to display database information.

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In This Chapter

In this chapter, you will create forms to enter data and view data in database tables. Forms can display one record at a time, with fields placed in the same order to match a paper source document to make it easier to enter the new information or view existing information. Records in a form or table can be filtered to display only a portion of the total records based on matching specific values.

In this chapter, you will create reports that summarize data stored in a query or table in a professional-looking manner suitable for printing. After your report is created, you can modify the design so that the final report is laid out in a format that is useful to the person reading it.

The projects in this chapter relate to **Capital Cities Community College**, which is located in the Washington D. C. metropolitan area. The college provides high-quality education and professional training to residents in the cities surrounding the nation's capital. Its four campuses serve over 50,000 students and offer more than 140 certificate programs and degrees at the associate's level. CapCCC has a highly acclaimed Distance Education program and an extensive Workforce Development program. The college makes positive contributions to the community through cultural and athletic programs and partnerships with businesses and non-profit organizations.

Project 3A Students and Majors

myitlab
Project 3A Training

Project Activities

In Activities 3.01 through 3.11, you will assist Juanita Ramirez, Director of Enrollment Services, in using an Access database to track new students and their major fields of study. Your completed forms will look similar to Figure 3.1.

Project Files

For Project 3A, you will need the following file:

a03A_Students_Majors

You will save your document as:

Lastname_Firstname_3A_Students_Majors

Project Results

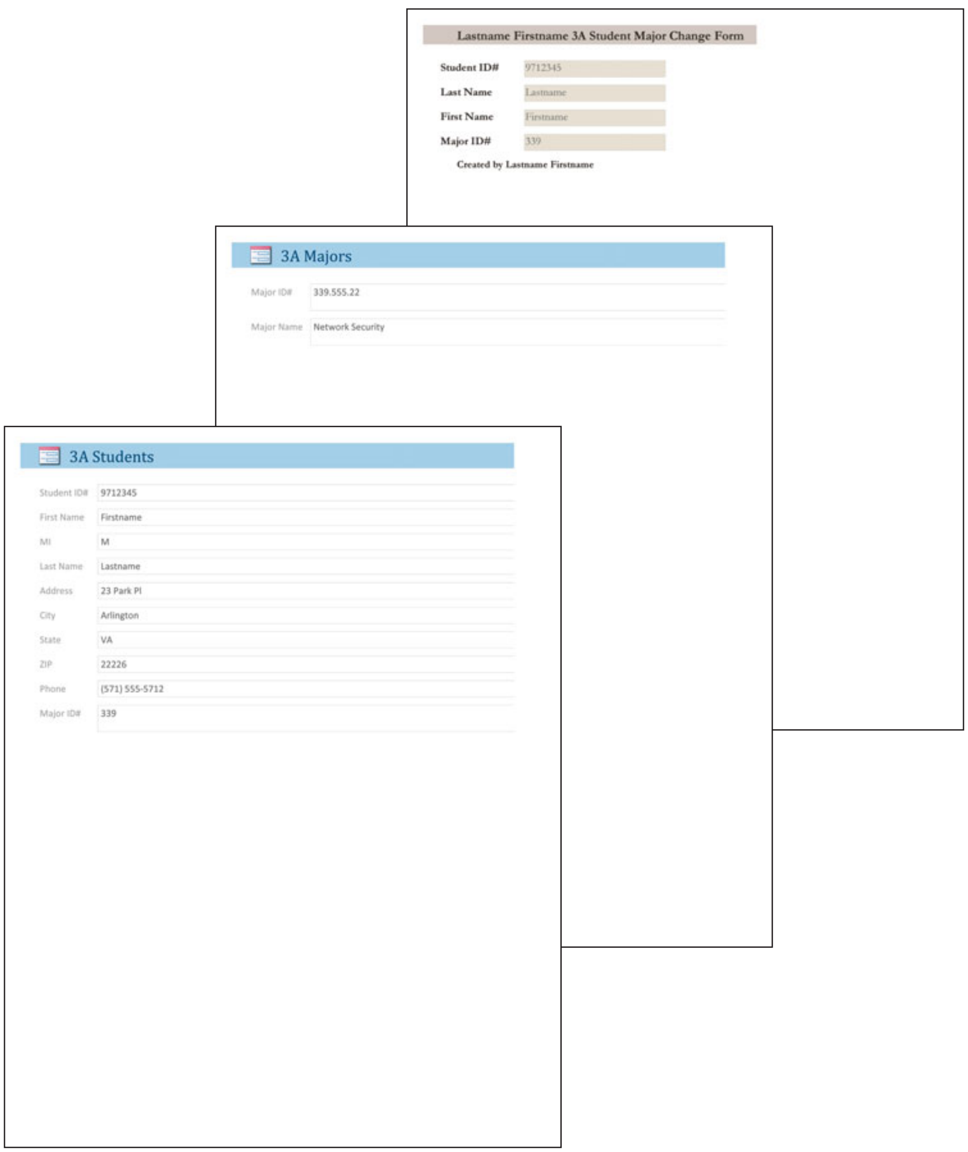


Figure 3.1
Project 3A Students and Majors

Objective 1 | Create and Use a Form to Add and Delete Records

A ***form*** is an Access object you can use to enter new records into a table, or to edit, delete, or display existing records in a table. A form is useful to control access to the data. For example, you can design a form for college Registration Assistants who can see and enter the courses scheduled and fees paid by an individual student. However, they cannot see or enter grades in the student's record.

Some Access forms display only one record at a time; other forms display multiple records at the same time. A form that displays only one record at a time is useful not only to the individual who performs the ***data entry***—typing the actual records—but also to anyone who has the job of viewing information in a database. For example, when you visit the Records Office at your college to obtain a transcript, someone displays your record on a screen. For the viewer, it is much easier to look at one record at a time, using a form, than to look at all of the student records in the database.

Activity 3.01 | Creating a Form

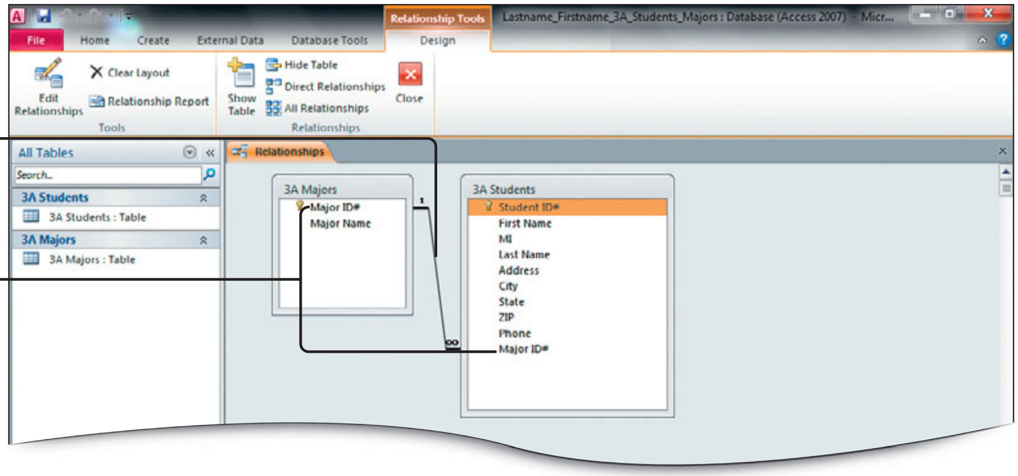
There are several ways to create a form in Access, but the fastest and easiest way is to use the ***Form tool***. With a single mouse click, all fields from the underlying data source are placed on the form. You can use the new form immediately, or you can modify it in Layout view or in Design view.

The Form tool incorporates all of the information—both the field names and the individual records—from an existing table or query and then instantly creates the form for you. Records that you edit or create using a form automatically update the underlying table or tables. In this activity, you will create a form and then use it to add new student records to the database.

1. **Start** Access. In **Backstage** view, click **Open**. Navigate to the student data files for this textbook, and then open the **a03A_Students_Majors** database.
2. Display **Backstage** view, click **Save Database As**, and then in the **Save As** dialog box, navigate to the location where you are saving your databases for this chapter. Create a new folder named **Access Chapter 3** and then click **Open**.
3. In the **File name** box, select the file name, and then type **Lastname_Firstname_3A_Students_Majors** and then press Enter. On the **Message Bar**, click the **Enable Content** button. Notice that there are two tables in this database.
4. On the Ribbon, click the **Database Tools tab**. In the **Relationships group**, click the **Relationships** button. Compare your screen with Figure 3.2.

   One major is associated with *many* students. Thus, a one-to-many relationship has been established between the 3A Majors table and the 3A Students table using the Major ID# field as the common field.

Figure 3.2



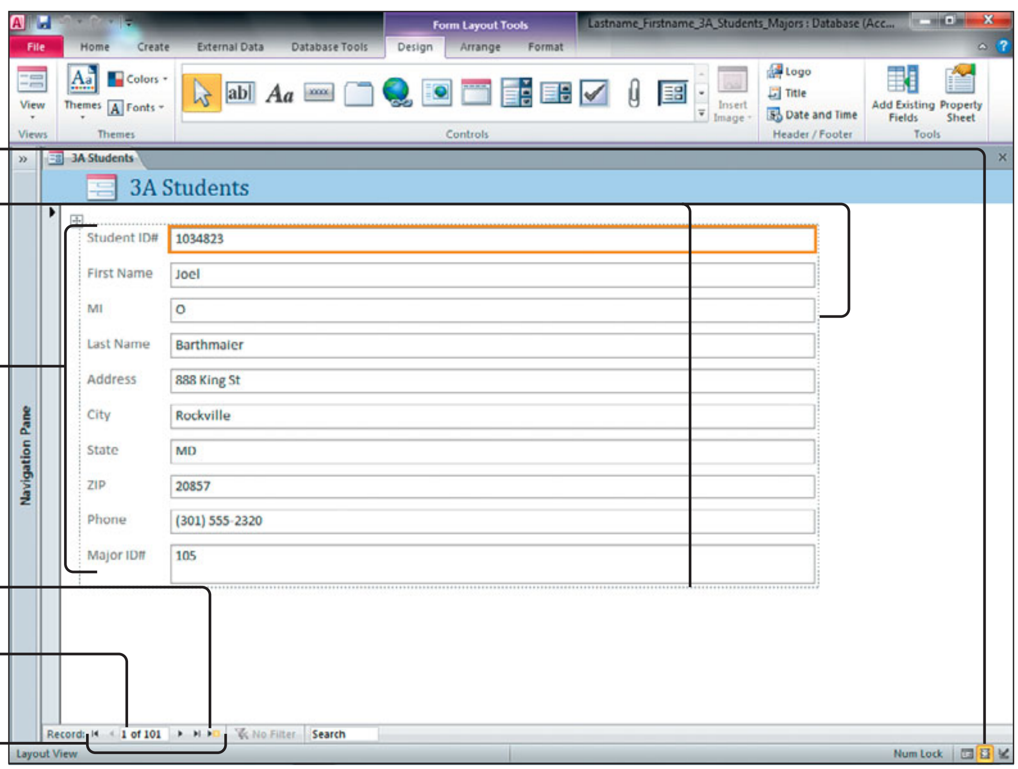
5 **Close** the **Relationships** window. From the **Navigation Pane**, open the **3A Students** table. Notice the ten fields—*Student ID#*, *First Name*, *MI*, *Last Name*, *Address*, *City*, *State*, *ZIP*, *Phone*, and *Major ID#*. **Close** the table.

6 In the **Navigation Pane**, be sure the **3A Students** table is selected. Click the **Create tab**, and then in the **Forms group**, click the **Form** button. **Close** the **Navigation Pane**, and then compare your screen with Figure 3.3.

Access creates the form based on the currently selected object—the 3A Students table—and displays the form in ***Layout view***. In Layout view, you can modify the form while it is displaying data. For example, you can adjust the size of the text boxes to fit the data.

Access creates the form in a simple top-to-bottom layout, with all ten fields in the table lined up in a single column. The data for the first record in the table displays.

Figure 3.3



7 In the navigation area, click the **Next record** button four times. The fifth record—*Student ID 1298345*—displays. In the navigation area, click the **Last record** button to display the record for *Student ID 9583924*, and then click the **First record** button to display the record for *Student ID 1034823*.

You can use the navigation buttons to scroll among the records to display any single record.

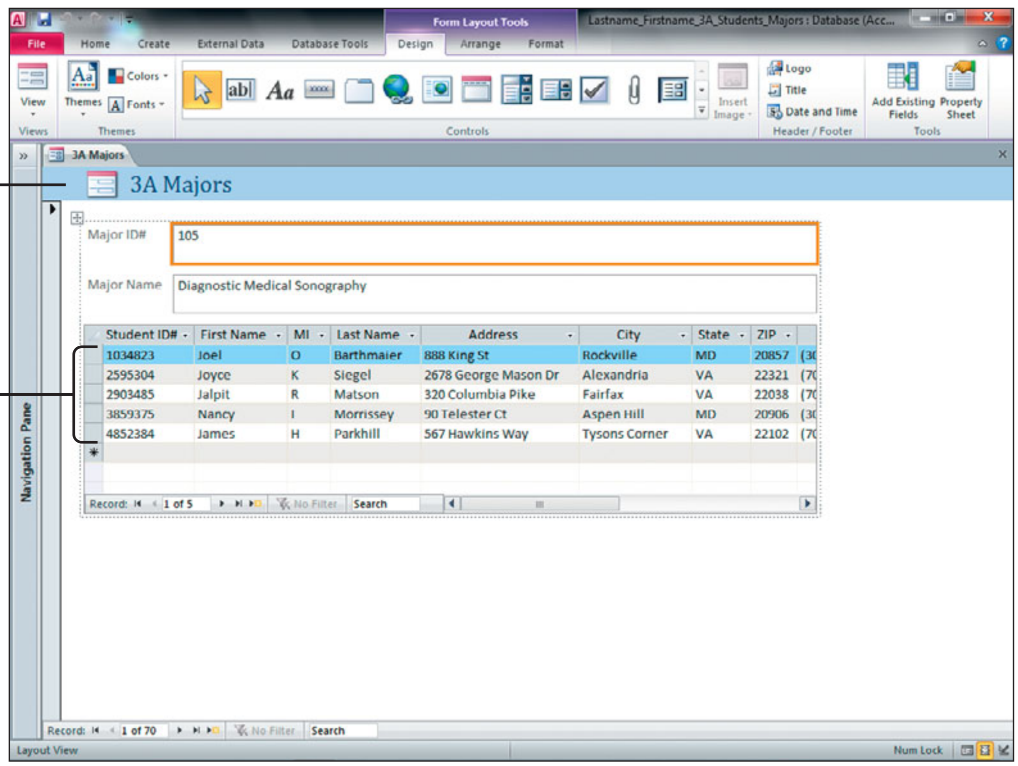
8 **Save** the form as **Lastname Firstname 3A Student Form** and then **Close** the form object.

9 **Open** the **Navigation Pane**, and then, if necessary, increase the width of the **Navigation Pane** to display the entire form name. Notice that your new form displays under the table with which it is related—the **3A Students** table.

10 In the **Navigation Pane**, click to select the **3A Majors** table. Click the **Create tab**, and then in the **Forms group**, click the **Form** button. **Close** the **Navigation Pane**, and then compare your screen with Figure 3.4. Notice that *Major ID 105*, for *Diagnostic Medical Sonography*, has five students selecting this major.

If a form's record has related records in another table, the related records display in the form because of the established one-to-many relationship between the underlying tables.

Figure 3.4



11 **Close** the **3A Majors** form. In the message box, click **Yes**. In the **Save As** dialog box, name the form **Lastname Firstname 3A Major Form** and then click **OK**.

Activity 3.02 | Adding Records to a Table by Using a Form

By using a single-record form to add and delete records, you can reduce the number of data entry errors, because the individual performing the data entry is looking at only one record at a time. Recall that your database is useful only if the information is accurate—just like your personal address book is useful only if it contains accurate addresses and phone numbers.

Forms are based on—also referred to as ***bound*** to—the table where the records are stored. When a record is entered in a form, the new record is added to the underlying table. The reverse is also true—when a record is added to a table, the new record can be viewed in the related form. In this activity, you will add a new record to the 3A Students table by using the form that you just created.

1. **Open** [»] the **Navigation Pane**, open your **3A Student Form** object, and then **Close** [«] the **Navigation Pane**. In the navigation area, click the **New (blank) record** button [▸✱] to display a new blank form.

> **Another Way**
>
> Press the Enter key, provided there are no special buttons on the form, such as a link to create a new form or a link to print the form.

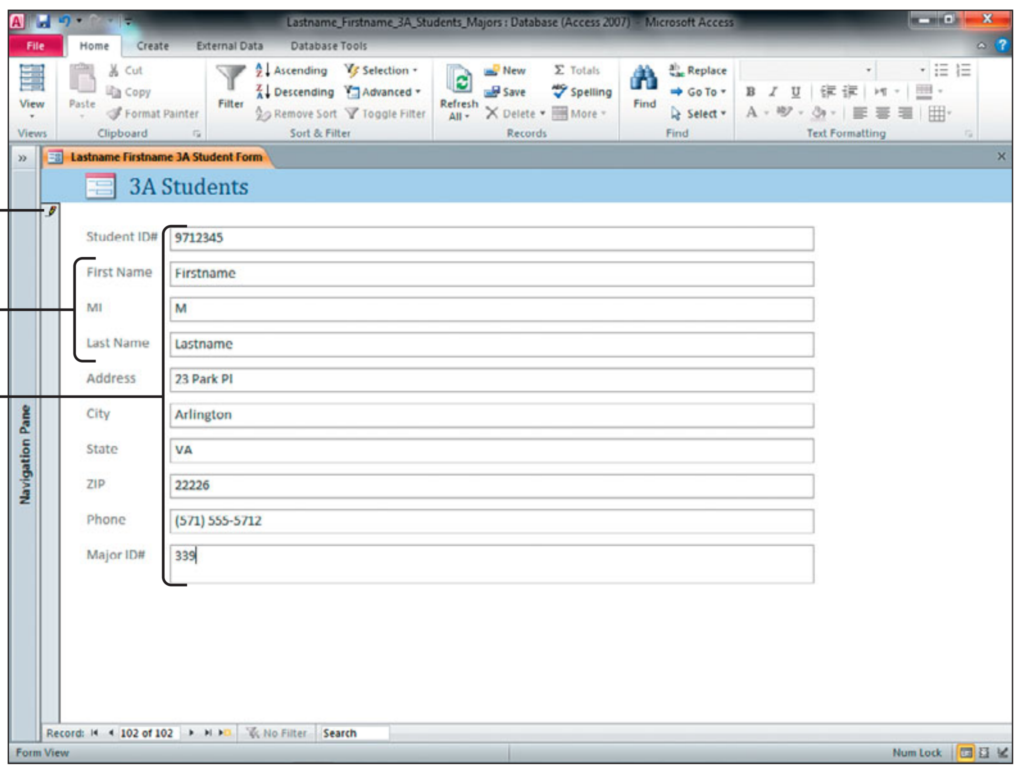
2. In the **Student ID#** field, type **9712345** and then press Tab.

   Use the Tab key to move from field to field in a form. This is known as ***tab order***—the order in which the insertion point moves from one field to the next when you press the Tab key. As you start typing, the pencil icon displays in the ***record selector bar*** at the left—the bar used to select an entire record. This icon displays when a record is created or edited.

3. Using your own first name and last name, continue entering the data as shown in the following table, and then compare your screen with Figure 3.5.

Student ID#	First Name	MI	Last Name	Address	City	State	ZIP	Phone	Major ID#
9712345	**Firstname**	**M**	**Lastname**	**23 Park Pl**	**Arlington**	**VA**	**22226**	**(571) 555-5712**	**339**

Figure 3.5



4. With your insertion point in the last field, press Tab to save the record and display a new blank record. **Close** [✕] the **3A Student Form** object.

5. **Open** [»] the **Navigation Pane**. Open the **3A Students** table. In the navigation area, click the **Last record** button [▸|] to verify that the record you entered in the form is stored in the underlying table. **Close** [✕] the **3A Students** table.

6 From the **Navigation Pane**, open the **3A Major Form** object. At the bottom of your screen, in the navigation area for the form—*not* the navigation area for the subdatasheet—click the **New (blank) record** button. In the blank form, enter the information in the following table:

Major ID#	Major Name
339.555.22	**Network Security**

7 **Close** your **3A Major Form** object. From the **Navigation Pane**, open the **3A Majors** table, and then scroll down to verify that the new record for Major ID# *339.555.22 Network Security* displays in the table—records are sorted by the *Major ID#* field. **Close** the table.

Activity 3.03 | Deleting Records from a Table by Using a Form

You can delete records from a database table by using a form. In this activity, you will delete Major ID# 800.03 because the program has been discontinued.

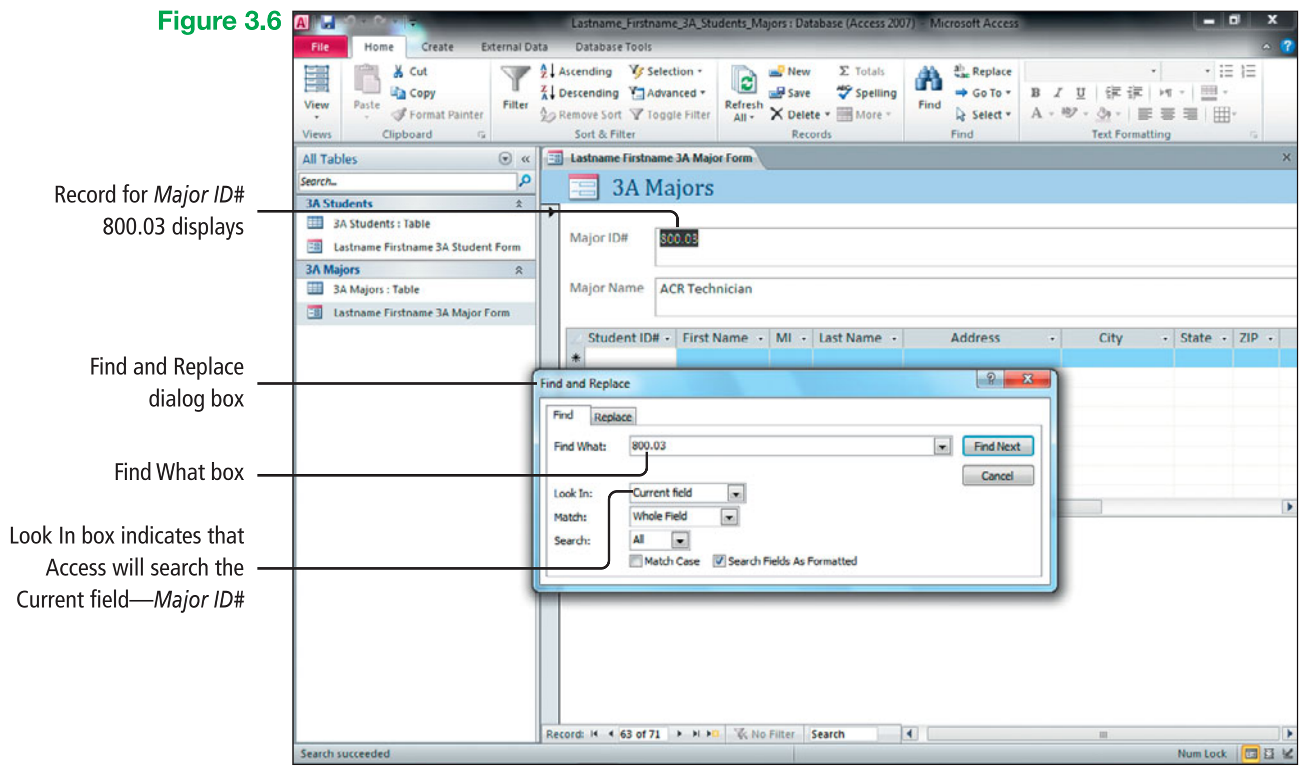
Another Way
Press Ctrl + F.

1 From the **Navigation Pane**, open your **3A Major Form** object. On the **Home tab**, in the **Find group**, click the **Find** button to open the **Find and Replace** dialog box.

2 In the **Look In** box, notice that *Current field* displays. In the **Find What** box, type **800.03** and then click **Find Next**. Compare your screen with Figure 3.6, and confirm that the record for **Major ID# 800.03** displays.

Because you clicked in the Major ID# field before opening the dialog box, Access searches for the data in this field.

Figure 3.6



3 **Close** the **Find and Replace** dialog box. On the **Home tab**, in the **Records group**, click the **Delete button arrow**, and then click **Delete Record** to delete the record for Major ID# 800.03.

Access removes the record from the screen and displays a message alerting you that you are about to delete *1 record(s)*. If you click Yes to delete the record, you cannot use the Undo button to reverse the action. If you delete a record by mistake, you must re-create the record by reentering the data. Because no students are associated with this major, you can delete it from the table.

4 In the message box, click **Yes** to delete the record. In the navigation area for the form, notice that the number of records in the table is *70*. **Close** the form.

5 From the **Navigation Pane**, open the **3A Majors** table. Examine the table to verify that the *Major ID# 800.03* record no longer exists, and then **Close** the table.

Adding and deleting records in a form updates the records stored in the underlying table.

Activity 3.04 | Printing a Form

Clicking the Print button while a form is displayed causes *all* of the records to print in the form layout. In this activity, you will print only *one* record.

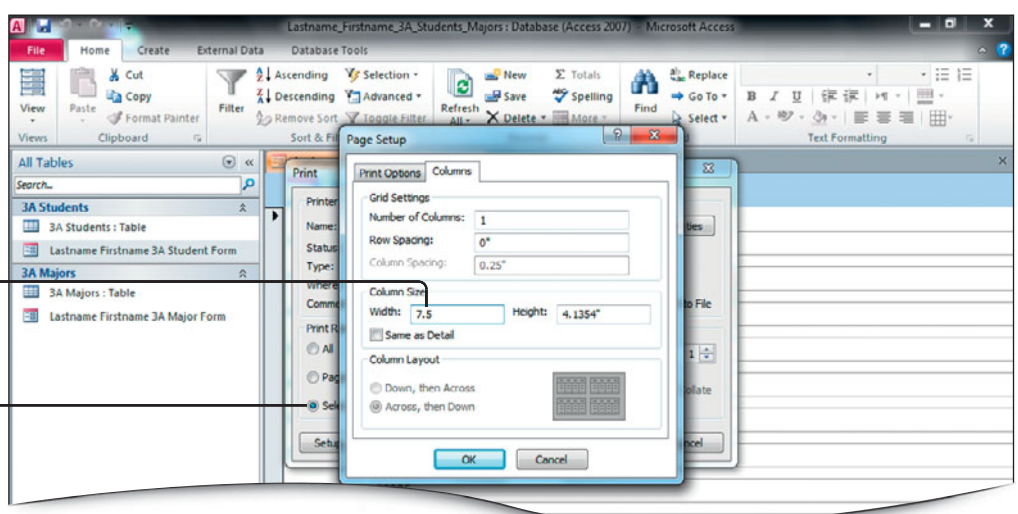
1 From the **Navigation Pane**, open your **3A Student Form** object. Press Ctrl + F to display the **Find and Replace** dialog box. In the **Find What** box, type **9712345** and then click **Find Next** to display the record with your name. **Close** the **Find and Replace** dialog box.

2 Display **Backstage** view. Click the **Print tab**, and then in the **Print group**, click **Print**. In the **Print** dialog box, under **Print Range**, click the **Selected Record(s)** option button. In the lower left corner of the dialog box, click **Setup**.

3 In the **Page Setup** dialog box, click the **Columns tab**. Under **Column Size**, in the **Width** box, delete the existing text, and type **7.5** Compare your screen with Figure 3.7.

Change the width of the column in this manner so that the form prints on one page. Forms are not typically printed, so the width of the column in a form may be greater than the width of the paper on which you are printing. The maximum column width that you can enter is dependent upon the printer that is installed on your system.

Figure 3.7



Column Width set to 7.5

Selected Record(s) option button selected

4 Click **OK** to close the **Page Setup** dialog box, and then, to create an electronic printout of this single form, see the instructions in the Note below. To print on paper, click **OK** to close the **Print** dialog box and to print only your record in the form layout.

Note | To Print a Single Form in PDF

To create a PDF electronic printout of a single record in a form, change the column width to 7.5 as described in step 3 above, and then in the Print dialog box, click Cancel. On the left edge of the form, click anywhere in the Record Selector bar so that it is black—selected. On the Ribbon, click the External Data tab. In the Export group, click the PDF or XPS button. In the Publish as PDF or XPS dialog box, navigate to the location where you are storing your files for this project. In the File name box, notice that your form name is automatically entered for you. Then, in the lower left corner of the dialog box, if necessary, select the Open file after publishing check box. In the lower right corner of the dialog box, click the Options button. In the Options dialog box, under Range, click the Selected records option button, click OK, and then click Publish. Close the Adobe Reader or Acrobat window, and then hold this file until you complete the project and submit it as directed by your instructor.

5 **Close** ✕ the **3A Student Form** object. Using the techniques you just practiced, open your **3A Major Form** object, display the record for the **Major ID#** of **339.555.22**, and then print only that record, or create an electronic printout of only that record. Then **Close** ✕ the **3A Major Form** object.

If there are no related records in the subdatasheet, the empty subdatasheet does not display in the printed form.

Objective 2 | Create a Form by Using the Form Wizard

The ***Form Wizard*** creates a form quickly like the Form tool, but gives you more flexibility in the design, layout, and number of fields. The design of the form should be planned for the individuals who use the form—either for entering new records or viewing records. For example, when your college counselor displays information, it may be easier for the counselor to view the information if the fields are arranged in a layout that differs from the manner in which the Form Tool arranges them.

Activity 3.05 | Creating a Form by Using the Form Wizard

At Capital Cities Community College, when a student changes his or her major, the student fills out a paper form. To make it easier to change the information in the database, you will create an Access form that matches the layout of the paper form. This will make it easier for the individual who changes the data in the database.

1 In the **Navigation Pane**, click to select the **3A Students** table. On the **Create tab**, in the **Forms group**, click the **Form Wizard** button.

The Form Wizard walks you step by step through the process of creating a form by asking questions. In the first Form Wizard dialog box, you select the fields to include on the form. The fields can come from more than one table or query.

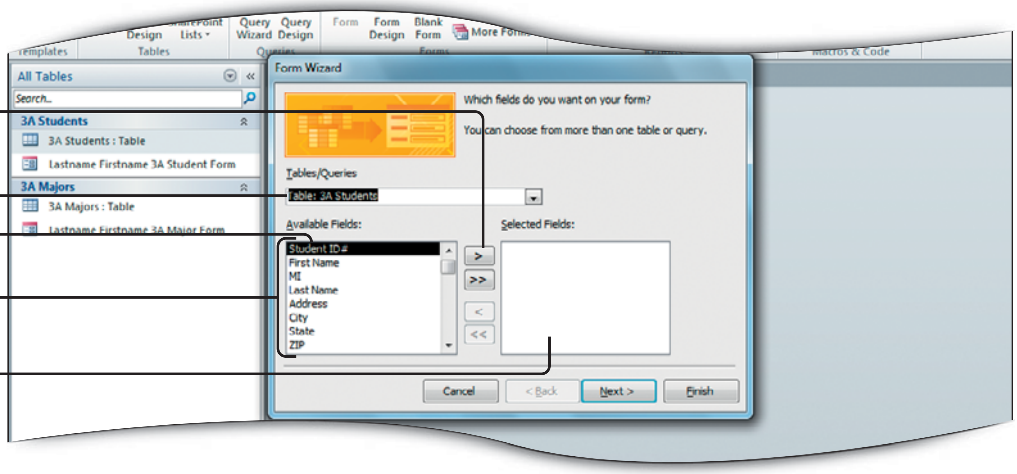
2 Under **Tables/Queries**, in the text box, click the **arrow** to display a list of available tables and queries from which you can create the form.

There are two tables in the database from which you can create a new form. Because you selected the 3A Students table on the Navigation Pane, the 3A Students table is the selected table.

3 Click **Table: 3A Students**, and then compare your screen with Figure 3.8.

The field names from the 3A Students table display in the Available Fields list.

Figure 3.8



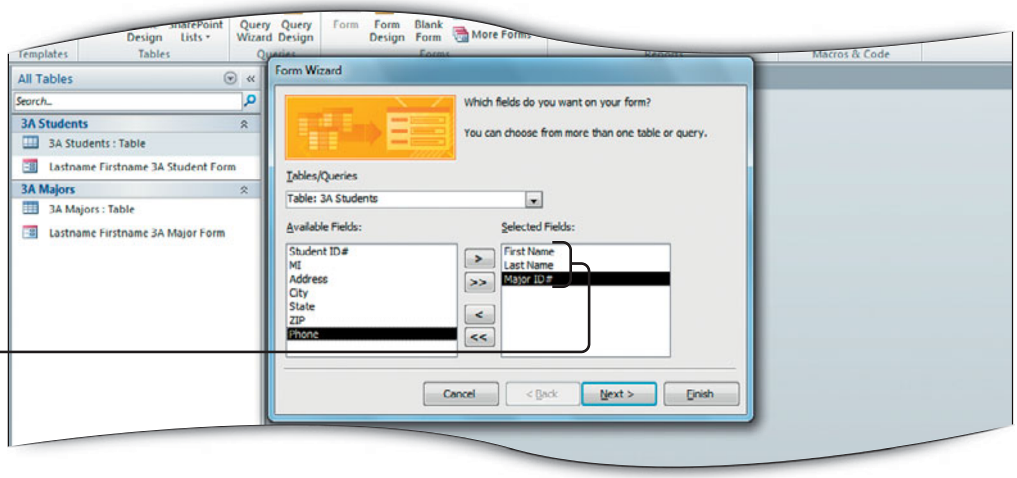
Another Way

Double-click the field name.

4 Use the **One Field** button [>] to move the following fields to the **Selected Fields** list: **First Name**, **Last Name**, and **Major ID#**. Compare your screen with Figure 3.9.

Three fields from the 3A Students table display in the Selected Fields list.

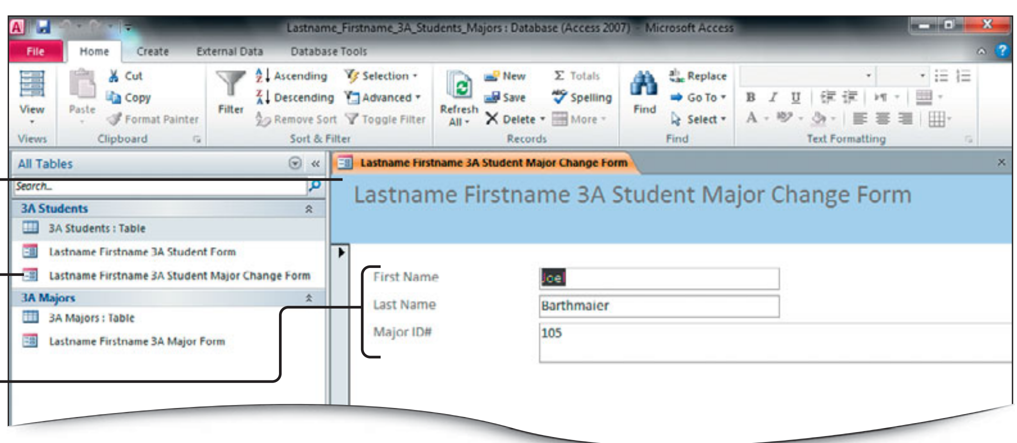
Figure 3.9



5 Click **Next**. Be sure **Columnar** is selected as the layout, and then click **Next**. Under **What title do you want for your form?**, select the existing text, and then type **Lastname Firstname 3A Student Major Change Form** and then click **Finish** to close the wizard and create the form. If necessary, increase the width of the Navigation Pane to display the entire form name, and then compare your screen with Figure 3.10.

The form is saved and added to the Navigation Pane under its data source. The first record in the underlying table displays in ***Form view***, which is used to view, add, delete, and modify records stored in a table.

Figure 3.10



Objective 3 | Modify a Form in Layout View and in Design View

After you create a form, you can make changes to it. For example, you can group the fields, resize the fields, and change the style of the form.

Activity 3.06 | Grouping Controls and Applying a Theme to a Form in Layout View

Layout view enables you to make changes to the design of a form while displaying the data from the underlying table. Most changes to a form can be made in Layout view.

Another Way

On the Home tab, in the Views group, click the View button arrow, and then click Layout View; or, right-click the object tab, and then click Layout View.

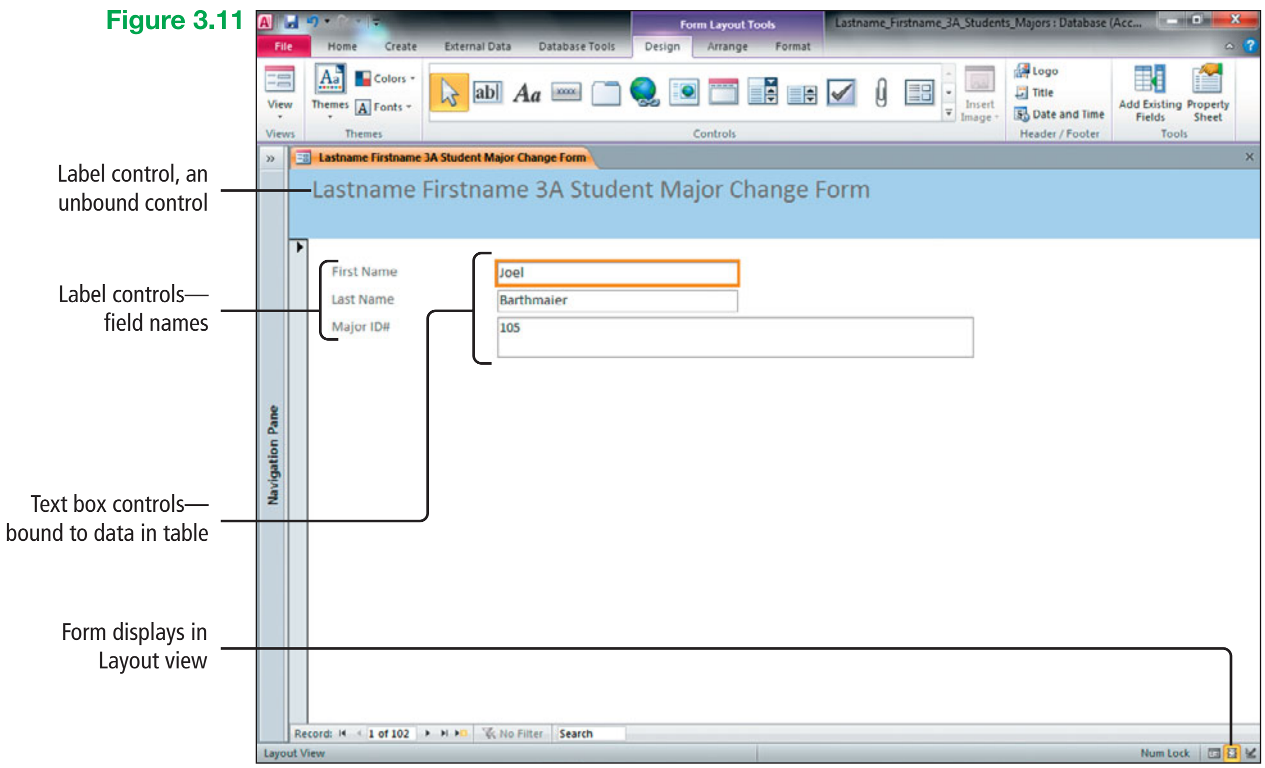
1 **Close** the **Navigation Pane** and be sure your **3A Student Major Change Form** object displays. In the lower right corner of your screen, on the status bar, click the **Layout View** button, and then compare your screen with Figure 3.11.

The field names and data for the first record display in ***controls***—objects on a form that display data, perform actions, and let you view and work with information.

The data in the first record displays in ***text box controls***. The most commonly used control is the text box control, which typically displays data from the underlying table. A text box control is a ***bound control***—its source data comes from a table or query.

The field names—*First Name*, *Last Name*, and *Major ID#*—display in ***label controls***. Access places a label control to the left of a text box control. A label control contains descriptive information that displays on the form, usually the field name. A control that does not have a source of data, for example a label that displays the title of the form, is an ***unbound control***.

Figure 3.11



2 Click the **First Name label control**. Hold down Shift, and then click the **Last Name label control**, the **Major ID# label control**, and the **three text box controls** to select all label and text box controls.

Alert! | **Do Your Controls Change Order When Selecting?**

If, when selecting controls, the controls change order, click Undo and select the controls again. Be careful not to drag the mouse when you are selecting multiple controls.

3 With all six controls selected—surrounded by a colored border—on the Ribbon, click the **Arrange tab**. In the **Table group**, click the **Stacked** button. Click the **First Name Label control** to deselect all of the controls and to surround the **First Name label control** with a colored border. Compare your screen with Figure 3.12.

This action groups the controls together in the ***Stacked layout*** format—a layout similar to a paper form, with labels to the left of each field. Grouping the controls enables you to easily move and edit controls as you redesign your form.

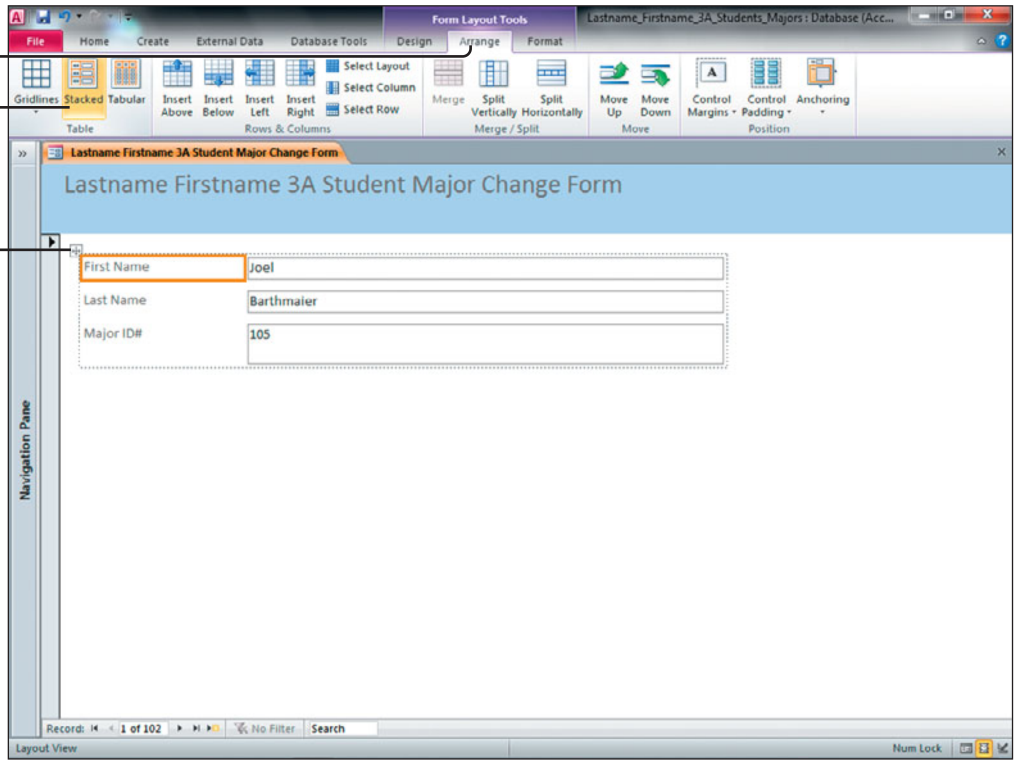
A dotted line forms a border around the field names and data. Above and to the left of the first field name—*First Name*—the ***layout selector*** displays, with which you can select and move the entire group of controls.

Figure 3.12

Arrange tab

Stacked button

Layout selector



4 Click the **Design tab**, and then in the **Themes group**, click the **Themes** button. In the **Themes** gallery, locate and right-click the **Couture** theme. Click **Apply Theme to This Object Only**.

The ***Themes*** button enables you to apply a predefined format to all of the database objects or to the current object. Right-click a theme so that you can apply the theme to a single object within the database. Apply a theme before performing other formatting to the text in your form.

Note | Applying a Theme to an Object and Determining the Applied Theme

If you click a theme rather than right-clicking it and selecting an option, the theme is applied to all objects in the database. To determine the applied theme, in the Themes group, point to the Themes button. The ScreenTip displays the current theme.

5 Click anywhere in the title *3A Student Major Change Form* to select it. Click the **Format tab**. In the **Font group**, click the **Font Size arrow**, and then click **14**. Click the **Bold** button **B** to add bold emphasis to the text. Click the **Font Color button arrow**, and then under **Theme Colors**, in the last column, click the last color—**Brown, Accent 6, Darker 50%**.

Activity 3.07 | Modifying a Form in Design View

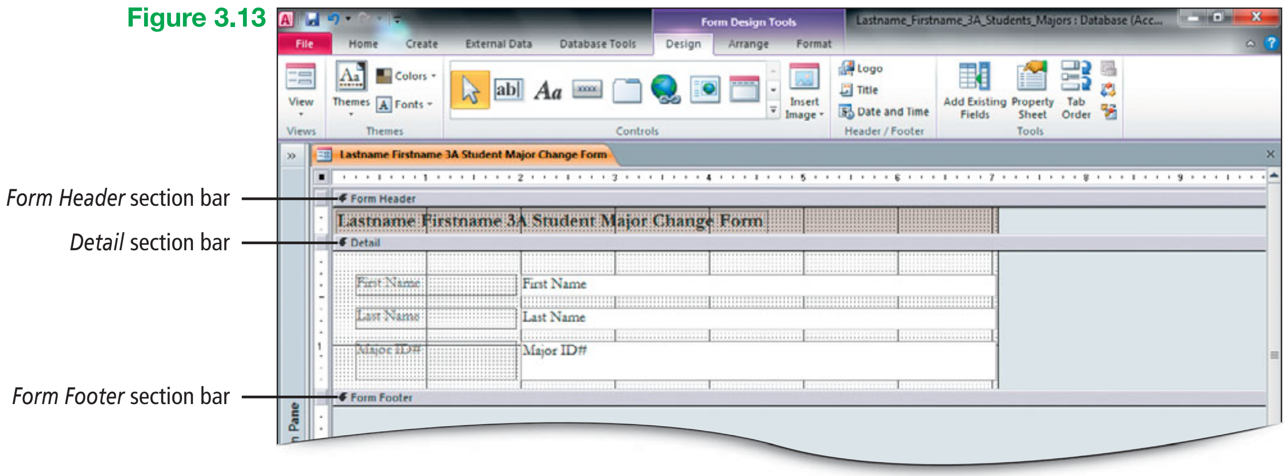
Design view presents a detailed view of the structure of your form. Because the form is not actually running when displayed in Design view, you cannot view the underlying data. However, some tasks, such as resizing sections, must be completed in Design view.

> **Another Way**
>
> On the Home tab, in the Views group, click the View button arrow, and then click Design View; or, right-click the object tab, and then click Design View.

1 On the status bar, click the **Design View** button. Compare your screen with Figure 3.13.

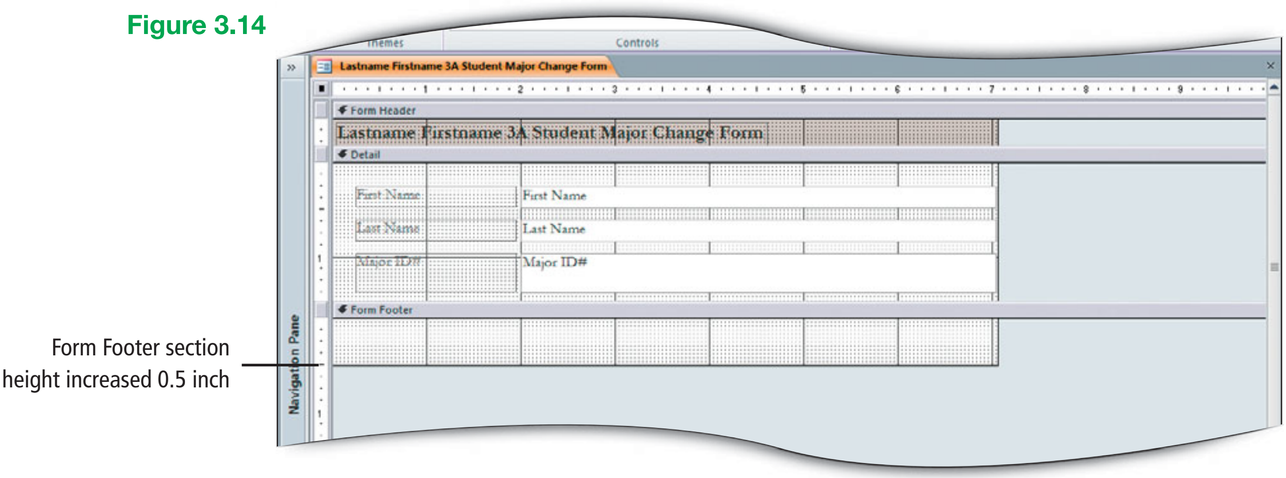
This Design view of a form displays three sections—***Form Header***, ***Detail***, and ***Form Footer***—each designated by a ***section bar*** at the top of each section. The form header contains information, such as a form's title, that displays at the top of the screen in Form view and is printed at the top of the first page when records are printed as forms. The detail section displays the records from the underlying table, and the form footer displays at the bottom of the screen in Form view and is printed after the last detail section on the last page of a printout.

Figure 3.13



2 At the bottom of the form, point to the *lower* edge of the **Form Footer section bar** to display the pointer, and then drag downward approximately **0.5 inch** to increase the height of the Form Footer section. Compare your screen with Figure 3.14.

Figure 3.14



3 On the **Design tab**, in the **Controls group**, click the **Label** button. Move the pointer into the **Form Footer** section, and then position the plus sign of the pointer in the **Form Footer** section at approximately **0.25 inch on the horizontal ruler** and even with the lower edge of the **Form Footer section bar** as shown in Figure 3.15.

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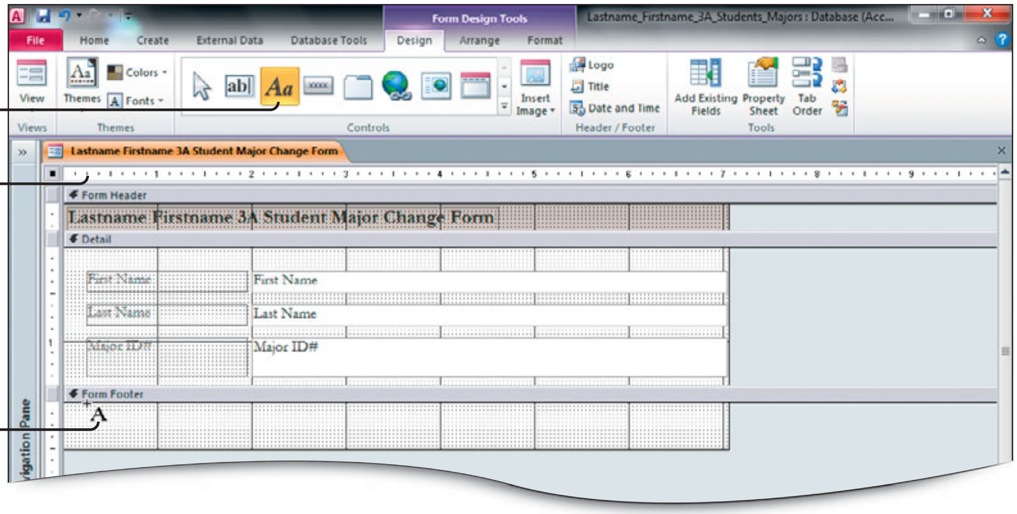
Figure 3.15



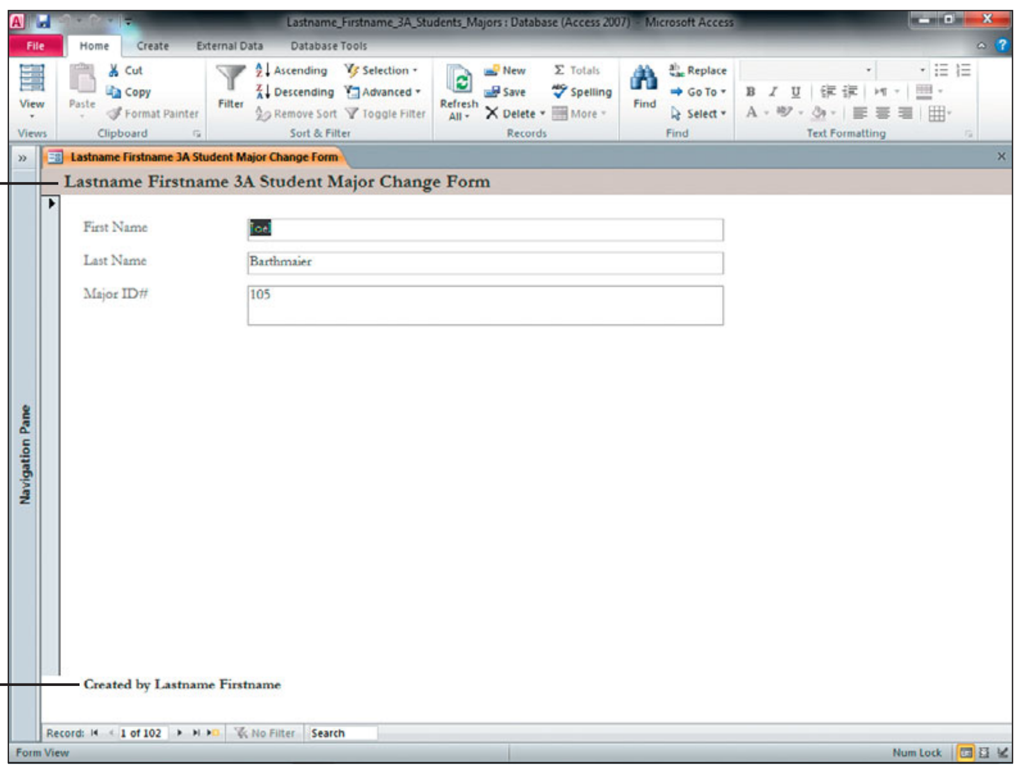
4 Click one time. Using your own name, type **Created by Lastname Firstname** and then press Enter. With the label control selected, on the **Format tab**, in the **Font group**, click the **Bold** button B. Click the **Font Color arrow**, and then under **Theme Colors**, in the fourth column, click the first color—**Brown, Text 2**. If necessary, double-click the right edge of the label control to resize the control so that all of the data displays.

> **Another Way**
>
> On the Home tab, in the Views group, click the View button arrow, and then click Form View; or, right-click the object tab, and then click Form View.

5 On the right side of the status bar, click the **Form View** button, and then compare your screen with Figure 3.16.

Form Footer text displays on the screen at the bottom of the form and prints only on the last page if all of the forms are printed as a group. In the ***Form view***, you can add, delete, or modify records stored in a table.

Figure 3.16



6 **Save** the changes you have made to the design of your form. Leave your **3A Student Major Change Form** open for the next activity.

Activity 3.08 | Adding, Resizing, and Moving Controls in Layout View

In Layout view, you can change the form's ***control layout***—the grouped arrangement of controls.

1 At the right side of the status bar, click the **Layout View** button.

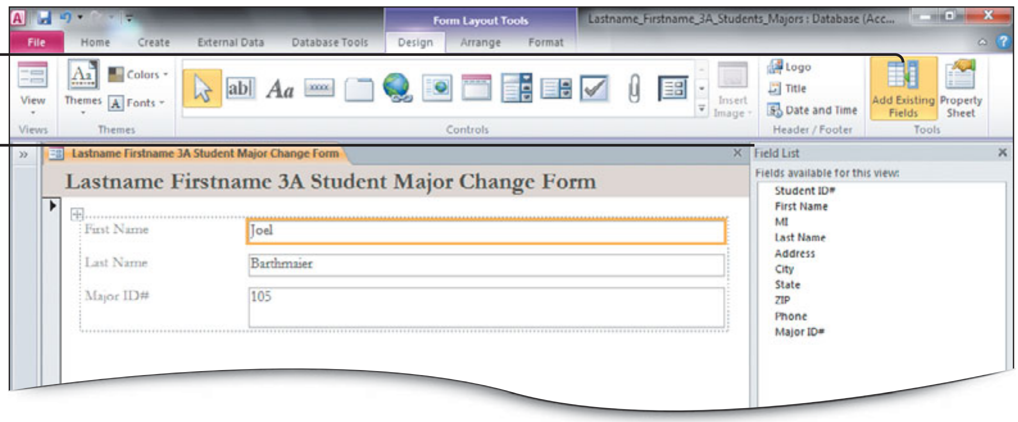
Recall that the layout selector, which displays to the left and above the First Name label control, enables you to select and move the entire group of controls in Layout view.

2 On the **Design tab**, in the **Tools group**, click the **Add Existing Fields** button to display the **Field List** pane, which lists the fields in the underlying table—3A Students. Compare your screen with Figure 3.17.

Figure 3.17

Add Existing Fields button

Field List pane



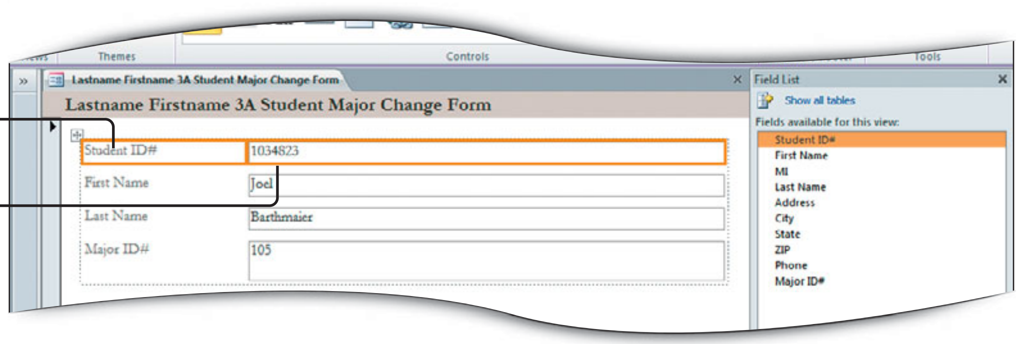
3 In the **Field List** pane, click **Student ID#**, and then drag to the left until the pointer displays above the **First Name label control** and a colored line displays above the control. Release the mouse button, and then compare your screen with Figure 3.18. If you are not satisfied with the result, click Undo and begin again.

This action adds the Student ID# label and text box controls to the form above the First Name controls.

Figure 3.18

Student ID# label control

Text box control for
Student ID# field

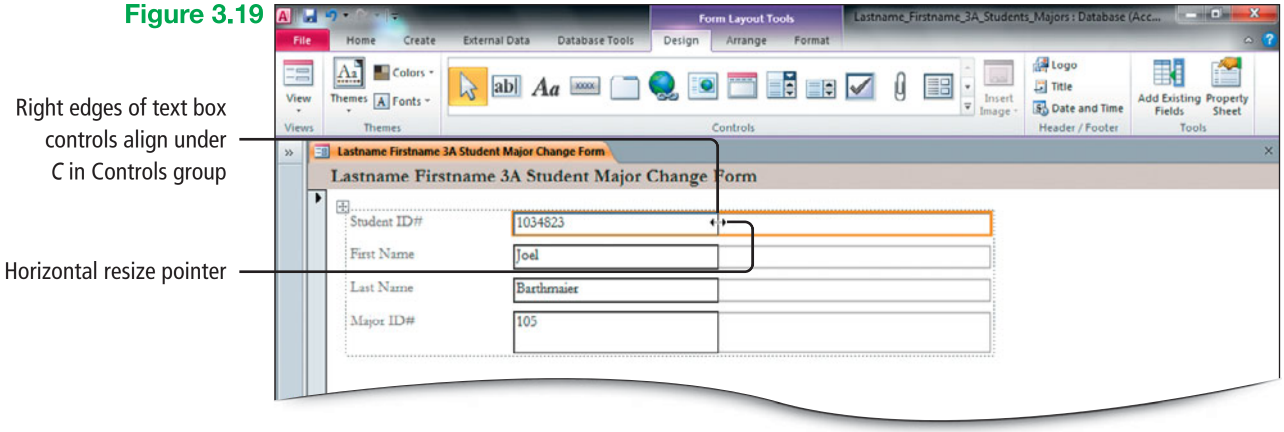


4 **Close** the **Field List** pane. Click the **Student ID# text box control**, which currently displays *1034823*, to surround it with a border and to remove the border from the label control.

5 Point to the right edge of the **text box control** until the pointer displays, and then drag to the left until all of the right edges of the text box controls align under the *C* in *Controls* in the Ribbon's **Controls group** above. Compare your screen with Figure 3.19.

All four text box controls are resized simultaneously. By decreasing the width of the text box controls, you have more space in which to rearrange the form controls. In Layout view, because you can see your data, you can determine visually that the space you have allotted is adequate to display all of the data in every field.

Figure 3.19

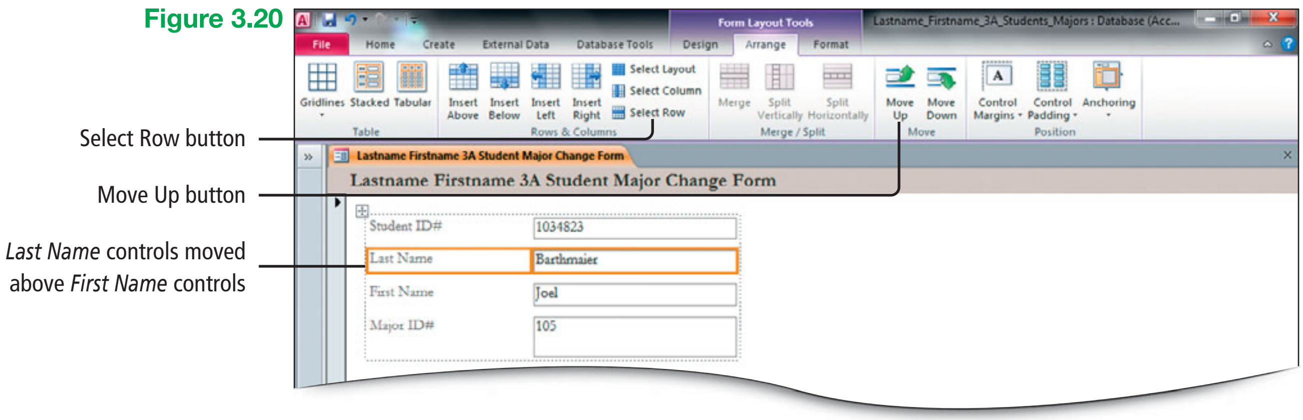


Another Way

Drag the selected label controls to the desired location and then release the mouse button.

6 Click the **Last Name text box control**, which currently displays *Barthmaier*. Click the **Arrange tab**, and then in the **Rows & Columns group**, click the **Select Row** button. In the **Move group**, click the **Move Up** button one time to move the controls above the **First Name label control** as shown in Figure 3.20.

Figure 3.20



7 **Save** the changes you have made to the design of your form.

Activity 3.09 | Formatting and Aligning Controls in Layout View

Another Way

Click the first control, hold down Shift, and then click the last control.

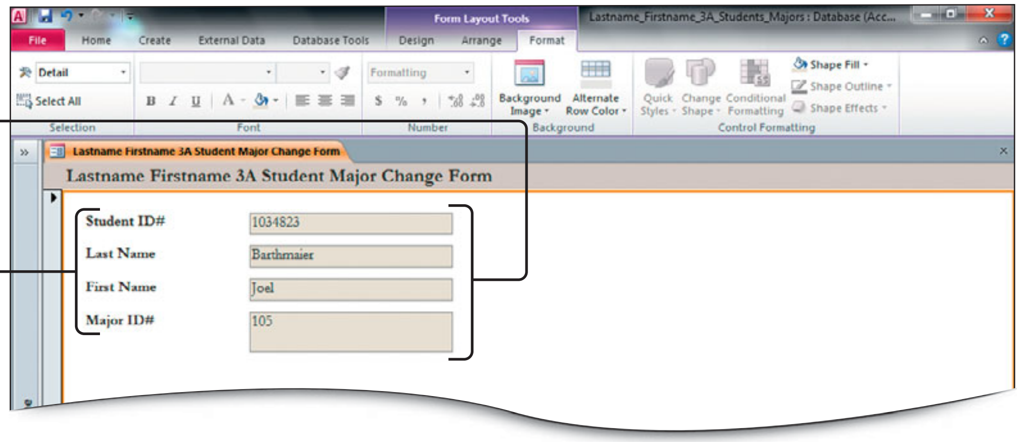
1 With the form displayed in Layout view, click in the **Student ID# text box control**, which displays *1034823*. On the **Arrange tab**, in the **Rows & Columns group**, click the **Select Column** button to select all four text box controls.

2 With the four text box controls selected, click the **Format tab**. In the **Font group**, click the **Background Color button arrow**. Under **Theme Colors**, in the fifth column, click the second color—**Brown, Accent 1, Lighter 80%**.

The text box controls display a background color of light brown. This formatting does not affect the label controls on the left.

3 Click the **Student ID# label control**. On the **Arrange tab**, in the **Rows & Columns group**, click the **Select Column** button. Click the **Format tab**, change the **Font Color**—*not* the Background Color—to **Brown, Text 2**—in the fourth column, the first color—and then apply **Bold** **B**. Click in a blank area of the screen to cancel the selection, and then compare your screen with Figure 3.21.

Figure 3.21



Another Way

Click any control, and then on the Arrange tab, in the Rows & Columns group, click the Select Layout button.

4 Click any **label control** to display the layout selector, and then click the **layout selector** ⊞ to select all of the controls.

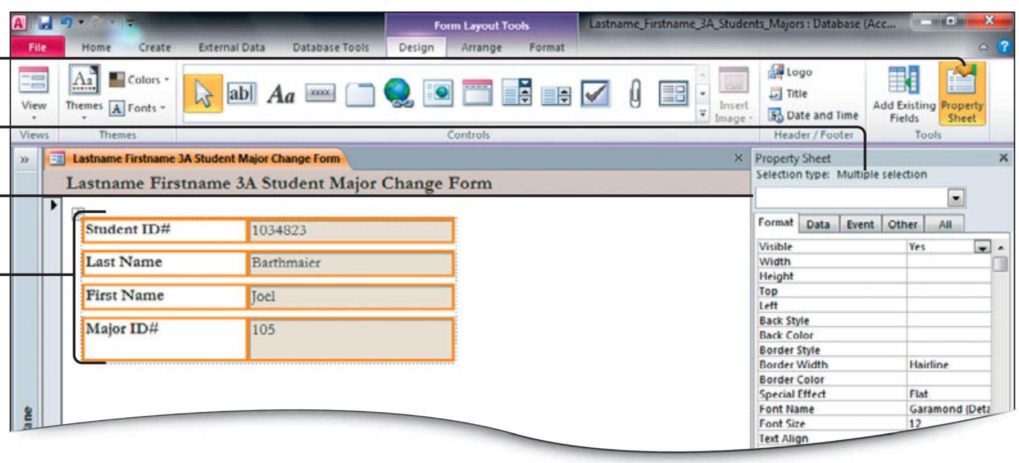
Clicking the layout selector enables you to edit all of the controls at one time.

5 On the **Format tab**, in the **Font group**, click the **Font Size button arrow**, and then click **12** to change the font size of the text in all of the controls.

6 With all of the controls still selected, on the Ribbon, click the **Design tab**. In the **Tools group**, click the **Property Sheet** button. In the **Property Sheet** pane, if necessary, click the **Format tab**, and then compare your screen with Figure 3.22.

The ***Property Sheet*** for the selected controls displays. Each control has an associated Property Sheet where precise changes to the properties—characteristics—of selected controls can be made. At the top of the Property Sheet, to the right of *Selection type:*, *Multiple selection* displays because you have more than one control selected.

Figure 3.22



7 In the **Property Sheet**, click the word **Height**, type **0.25** and then press Enter.

The height of each control changes to 0.25 inch.

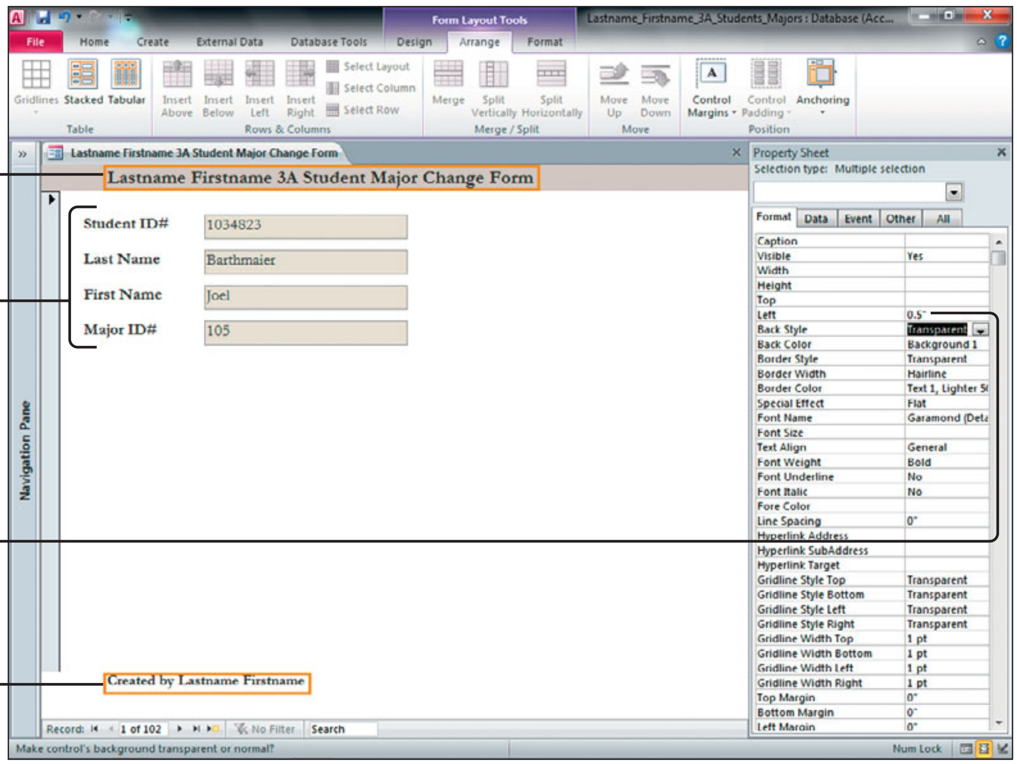
8 Click the **Student ID# label control** to select only that label control. Click the **Arrange tab**, and then in the **Rows & Columns group**, click the **Select Column** button. In the **Property Sheet**, click **Width** to select its value to the right. Type **1.25** and then press Enter.

The width of each selected label control changes to 1.25 inches.

9 In the **Form Footer section**, click the **label control** with your name. Hold down Shift, and then in the **Form Header section**, click the **label control** that displays the title *3A Student Major Change Form*. With these two controls selected, in the **Property Sheet**, click **Left**. Type **0.5** and then press Enter to align the left edge of the selected label controls at 0.5 inch. Compare your screen with Figure 3.23.

The left edges of the Form Header and Form Footer label controls align at 0.5 inch. In this manner, you can place a control in a specific location on the form.

Figure 3.23



10 **Close** the **Property Sheet**. On the right side of the status bar, click the **Form View** button.

The form displays in Form view, the view an individual uses when entering data in the form. By using these techniques, you can make a form attractive and easy to use for those who view and enter records.

11 **Save** the changes you made to your form's design. In the navigation area, click the **Last record** button to display the record containing your name.

12 Display **Backstage** view, click the **Print tab**, and then on the right, click **Print**. In the **Print** dialog box, under **Print Range**, click the **Selected Record(s)** option button. Create a paper or electronic printout as directed. To create an electronic printout, follow the directions given at the end of Activity 1.04.

Because you decreased the width of the text box controls, you do *not* have to adjust the Column Size width in the Page Setup dialog box as you did with the form you created using the Form tool.

13 With the **3A Student Major Change Form** object displayed in **Form** view, in the navigation area, click the **First record** button to prepare for the next activity.

Objective 4 | Filter Records

Filtering records in a form is the process of displaying only a portion of the total records—a ***subset***—based on matching specific values. Filters are commonly used to provide a quick answer, and the result is not generally saved for future use. For example, by filtering records in a form, you can quickly display a subset of records for students majoring in Information Systems Technology, which is identified by the Major ID# of 339.

One reason that you create a form is to provide a user interface for the database. For example, the Registration Assistants at your college may not, for security reasons, have access to the entire student database. Rather, by using a form, they can access and edit only some information—the information necessary for their jobs. Filtering records within a form provides individuals who do not have access to the entire database a way to ask questions of the database without constructing a query, and also to save a filter that is used frequently.

Activity 3.10 | Filtering Data by Selection of One Field

The counselor would like to see records for students who are majoring in Information Systems Technology. In a form, you can use the ***Filter By Selection*** command—which retrieves only the records that contain the value in the selected field and which temporarily removes the records that do *not* contain the value in the selected field.

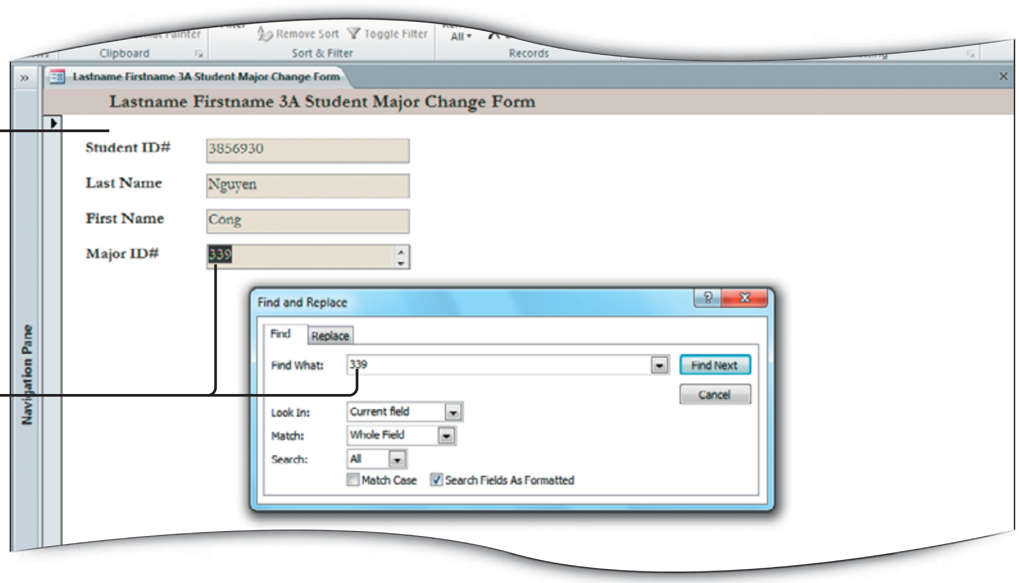
1 With your **3A Student Major Change Form** object displayed in **Form** view, in the first record, click in the shaded **Major ID# text box control**. On the **Home tab**, in the **Find group**, click the **Find** button. In the **Find and Replace** dialog box, in the **Find What** box, type **339** If necessary, in the Match box, click the arrow, and then click Whole Field. Click **Find Next**, and then compare your screen with Figure 3.24.

This action finds and displays a record with 339—the Major ID# for Information Systems Technology—so that you can filter the records using the selected value.

Figure 3.24

First record with *Major ID# of 339*

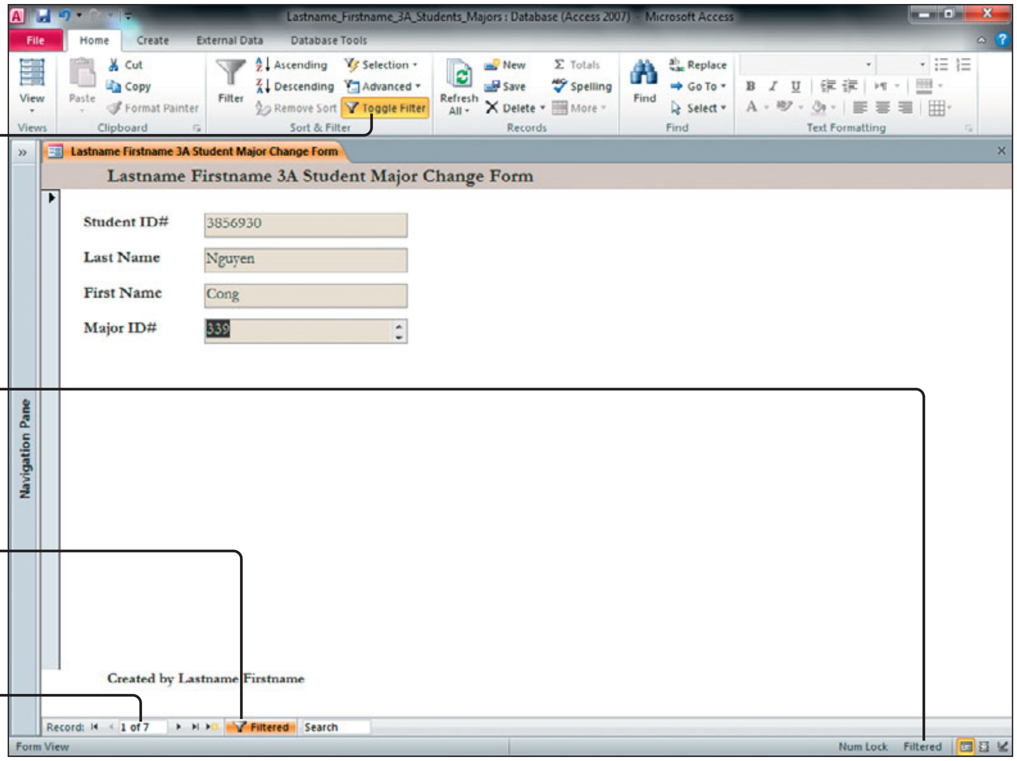
339 is the *Major ID#* for Information Systems Technology



2 **Close** the **Find and Replace** dialog box. In the **Sort & Filter group**, click the **Selection** button, and then click **Equals "339"**. Compare your screen with Figure 3.25.

Seven records match the contents of the selected Student Major ID# field—*339*—the ID# for the Information Systems Technology major. In the navigation area, a *Filtered* button with a funnel icon displays next to the number of records. *Filtered* also displays on the right side of the status bar to indicate that a filter is applied. On the Home tab, in the Sort & Filter group, the Toggle Filter button is active.

Figure 3.25



> **Another Way**
> Click the Filtered button in the navigation area.

3 On the **Home tab**, in the **Sort & Filter group**, click the **Toggle Filter** button to remove the filter and display all 102 records. Notice the **Unfiltered** button in the navigation area, which indicates that no filter is active.

> **Note | Toggle Filter Button**
>
> On the Home tab, the Toggle Filter button is used to apply or remove a filter. If no filter has been created, the button is not active—it is not highlighted. After a filter is created, this button becomes active. Because it is a toggle button used to apply or remove filters, the ScreenTip that displays for this button alternates between Apply Filter—when a filter is created but is not currently applied—and Remove Filter—when a filter is applied.

4 Be sure that the first record—for *Joel Barthmaier*—displays. On the **Home tab**, in the **Sort & Filter group**, click the **Toggle Filter** button to reapply the filter. In the navigation area, click the **Last record** button to display the last of the seven records that match *339*.

The record for *Student ID# 9712345* displays—the record with your name. In this manner, you can toggle a filter on or off as needed.

5 In the **Sort & Filter group**, click the **Toggle Filter** button to remove the filter and display all of the records.

6 In the navigation area, click the **Next record** button two times to display **Record 3**. In the **Last Name** field, select the first letter—**E**—of *Eckert*. On the **Home tab**, in the **Sort & Filter group**, click the **Selection** button. Click **Begins with "E"**.

A new filter is applied that displays three records in which the *Last Name* begins with the letter *E*.

7 In the navigation area, click the **Filtered** button to remove the filter and display all of the records.

8 **Save** the changes to your form, and then **Close** the form.

The filter is saved with the form even though the filter is not currently applied.

Activity 3.11 | Using Filter By Form and Advanced Filter/Sort

Use the ***Filter By Form*** command to filter the records in a form based on one or more fields, or based on more than one value in the same field. The Filter By Form command offers greater flexibility than the Filter by Selection command and can be used to answer a question that requires matching multiple values.

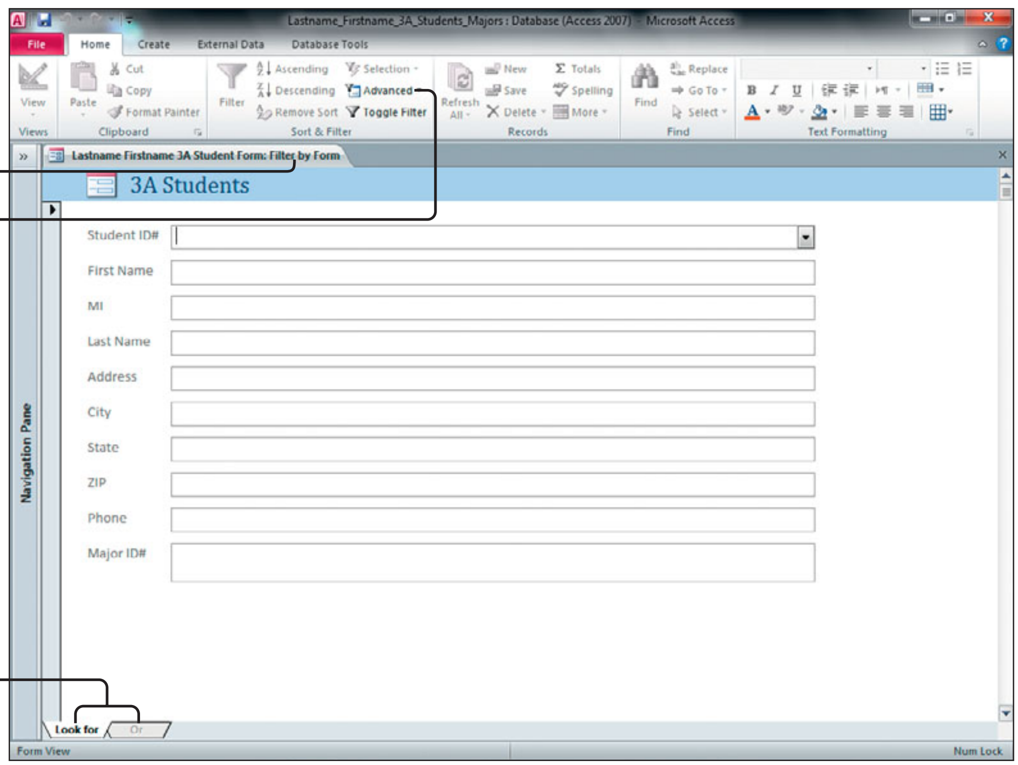
In this activity, you will use filtering techniques to help Juanita Ramirez determine how many students live in Alexandria or Arlington. Then you will determine how many students live in Arlington who are majoring in Information Systems Technology.

1 **Open** » the **Navigation Pane**, open your **3A Student Form** object, and then **Close** « the **Navigation Pane**.

2 On the **Home tab**, in the **Sort & Filter group**, click the **Advanced** button, and then click **Filter By Form**. Compare your screen with Figure 3.26.

The Filter by Form window displays all of the field names, but without any data. In the empty text box for each field, you can type a value or choose from a list of available values. The *Look for* and *Or* tabs display at the bottom.

Figure 3.26



3 Click in the **City text box control**. At the right edge of the text box control, click the **arrow** that displays. In the list, click **Alexandria**. In the **Sort & Filter group**, click the **Toggle Filter** button.

As displayed in the navigation area, eight student records include *Alexandria* in the City field.

Another Way

Click in the text box control and type the criteria separated by the word *or*. For example, in the City text box control, type *Alexandria or Arlington*.

4 In the **Sort & Filter group**, click the **Advanced** button, and then click **Filter By Form**. At the bottom left of the window, click the **Or tab**. Click the **City text box control arrow**, and then click **Arlington**. In the **Sort & Filter group**, click the **Toggle Filter** button.

As displayed in the navigation area, eighteen student records include either Alexandria *or* Arlington in the City field. You have created an ***OR condition***; that is, records display where, in this instance, either of two values—Alexandria *or* Arlington—is present in the selected field.

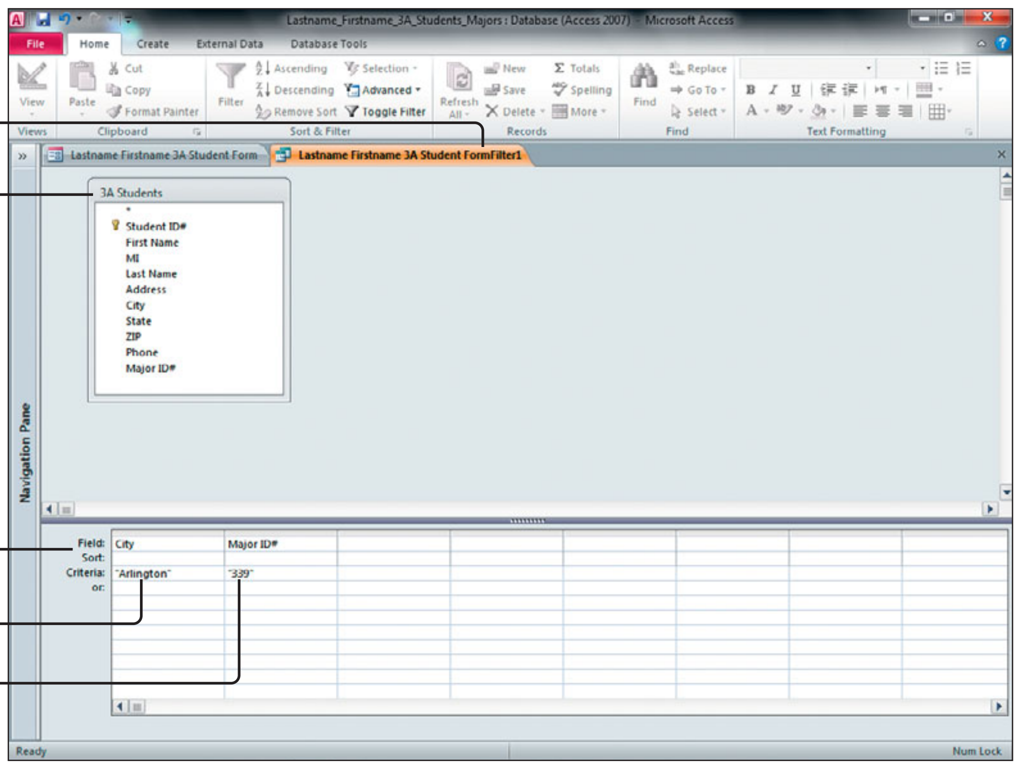
5 In the **Sort & Filter group**, click the **Advanced** button, and then click **Clear All Filters** to display all of the records.

6 Click the **Advanced** button again, and then from the list, click **Advanced Filter/Sort**. Expand the field list.

The Advanced Filter design grid displays. The design grid is similar to the query design grid.

7 From the **3A Students** field list, add the **City** field and then the **Major ID#** field to the design grid. In the **Criteria** row for the **City** field, type **Arlington** and then click in the **Criteria** row for the **Major ID#** field. Type **339** and then press Enter. Compare your screen with Figure 3.27.

Figure 3.27



8 In the **Sort & Filter group**, click the **Toggle Filter** button.

Two records match the criteria. You have created an ***AND condition***; that is, only records display where both values—Arlington *and* 339—are present in the selected fields. There are two Information Systems Technology majors who live in Arlington.

9 In the **Sort & Filter group**, click the **Toggle Filter** button to display all of the records.

In the navigation area, *Unfiltered* displays, which indicates that a filter was created for this form. Unless you Clear All Filters, the filter is saved with the form when the form is closed. When you reopen the form, you can click on the Toggle Filter button or the Unfiltered button to reapply the filter.

10 **Close** all open objects, and then **Open** the **Navigation Pane**. Display **Backstage** view, click **Close Database**, and then click **Exit**. As directed by your instructor, submit your database and the three paper or electronic printouts that are the results of this project.

More Knowledge | Using the Filter Button

You can filter a form in a manner similar to the way you filter records in a table. Click in the text box control of the field you wish to use for the filter. On the Home tab, in the Sort & Filter group, click the Filter button to display a shortcut menu. Select the (Select All) check box to clear the option, and then select the data by which you want to filter by clicking the check boxes preceding the data. To remove the filter, redisplay the menu, and then select the (Select All) check box.

End **You have completed Project 3A**

Access | Chapter 3

Project 3B Job Openings

myitlab Project 3B Training

Project Activities

In Activities 3.12 through 3.19, you will assist Damon Bass, Career Center Director for Capital Cities Community College, in using an Access database to track the employers and job openings advertised for the annual Career Fair. Your completed reports will look similar to Figure 3.28.

Project Files

For Project 3B, you will need the following file:

a03B_Job_Openings

You will save your database as:

Lastname_Firstname_3B_Job_Openings

Project Results

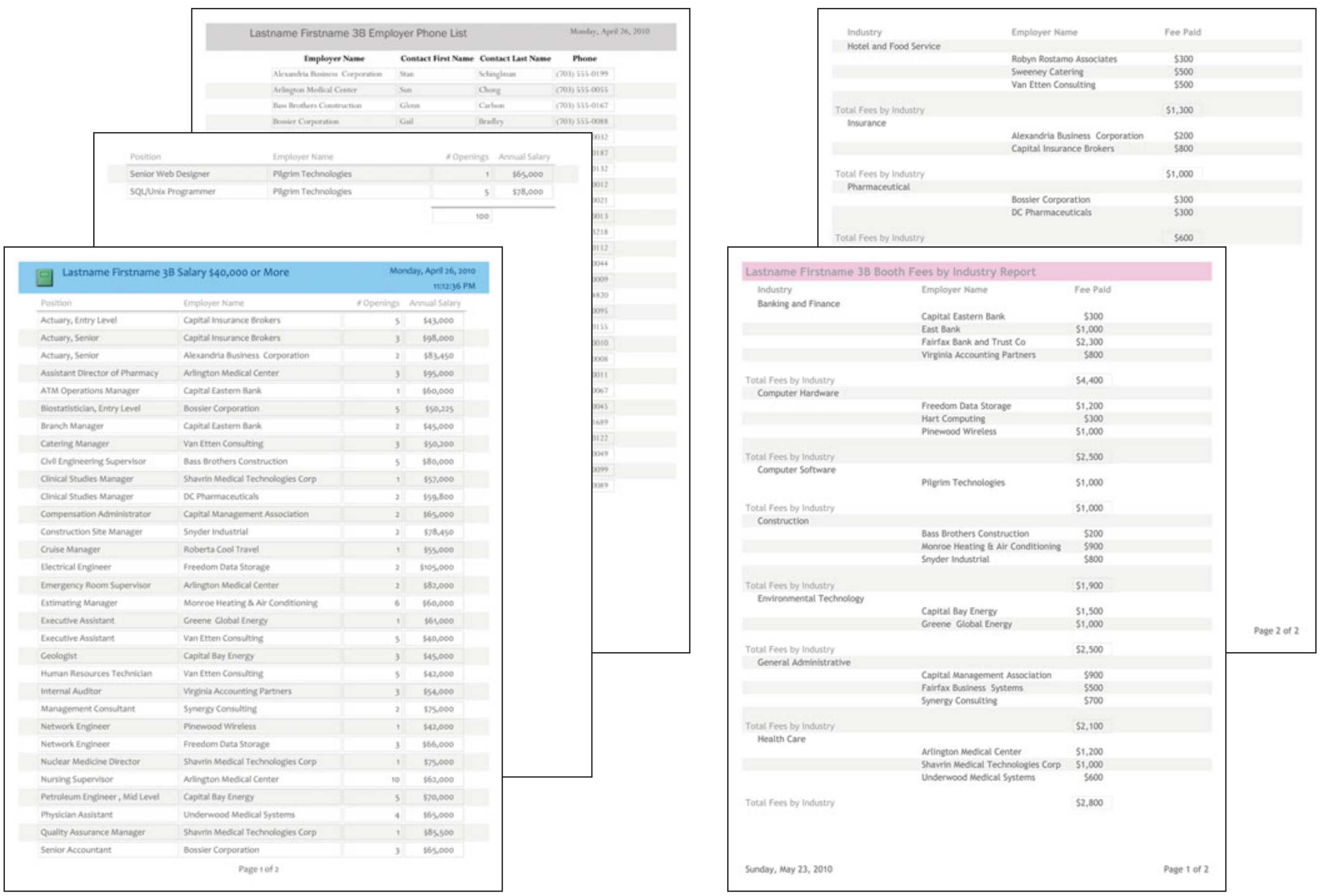


Figure 3.28
Project 3B Job Openings

Objective 5 | Create a Report by Using the Report Tool

A ***report*** is a database object that summarizes the fields and records from a query or from a table, in an easy-to-read format suitable for printing. A report consists of information extracted from queries or tables and also the report's design items, such as labels, headings, and graphics. The queries or tables that provide the underlying data for a report are referred to as the report's ***record source***.

Activity 3.12 | Creating a Report by Using the Report Tool

The ***Report tool*** is the fastest way to create a report. This tool displays all of the fields and records from the record source that you select. You can use the Report tool to look at the underlying data quickly in an easy-to-read format, after which you can save the report and modify it in Layout view or in Design view. In this activity, you will use the Report tool to create a report from a query that lists all of the job openings with an annual salary of at least $40,000.

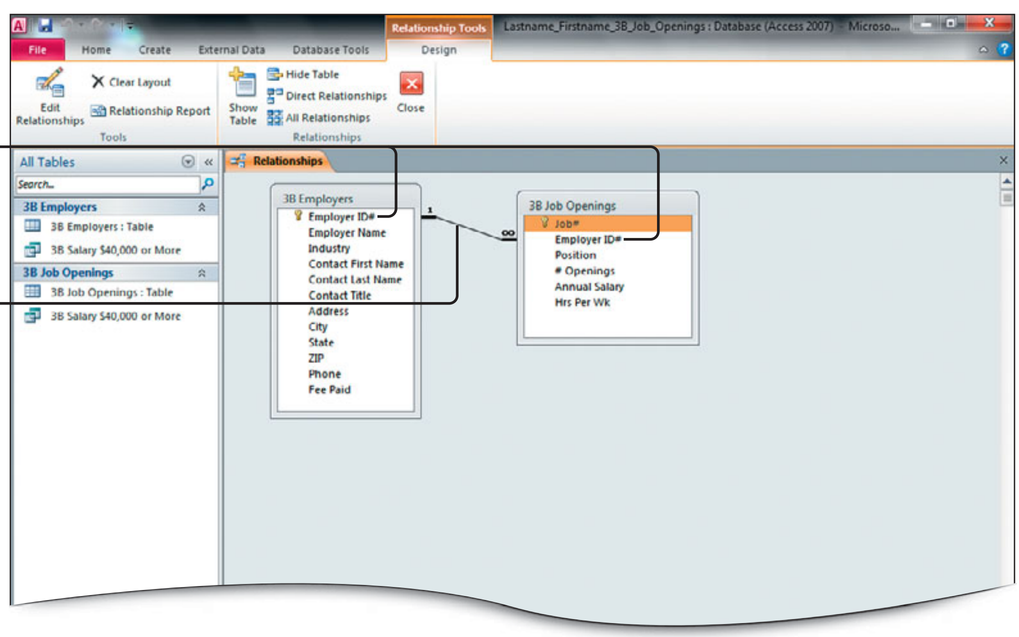
1 **Start** Access. In **Backstage** view, click **Open**. Navigate to the student data files for this textbook, and then open the **a03B_Job_Openings** database.

2 In **Backstage** view, click **Save Database As**. In the **Save As** dialog box, navigate to your **Access Chapter 3** folder. In the **File name** box, type **Lastname_Firstname_3B_Job_Openings** and then press Enter. On the **Message Bar**, click **Enable Content**. Notice that in this database, there are two tables and one query that uses both tables as its record source.

3 On the Ribbon, click the **Database Tools tab**. In the **Relationships group**, click the **Relationships** button. Compare your screen with Figure 3.29. If your relationships do not display, in the Relationships group, click the All Relationships button.

One employer is associated with *many* job openings. Thus, a one-to-many relationship has been established between the 3B Employers table and the 3B Job Openings table by using the Employer ID# field as the common field.

Figure 3.29



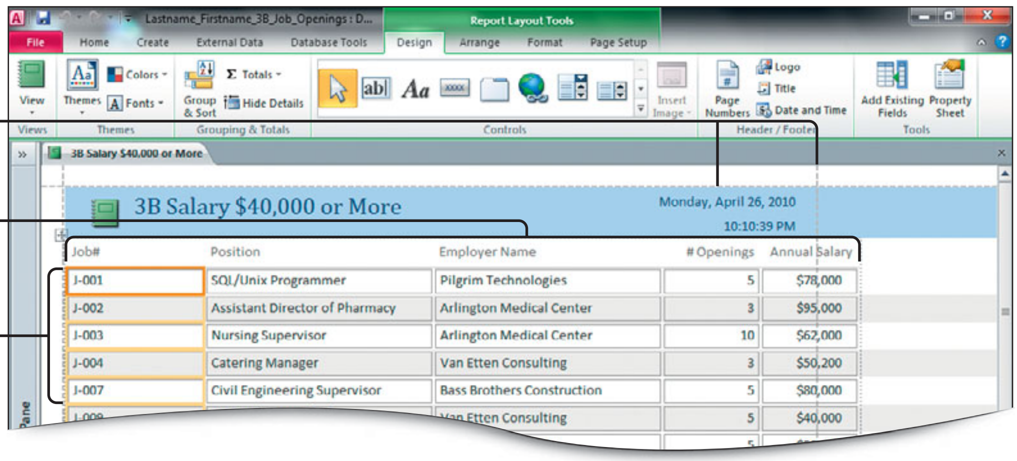
4 **Close** [X] the **Relationships** window. Open both tables, and look at the fields and data in each table. Open the query to examine the data, and then switch to **Design** view to examine the design grid. When you are finished, **Close** [X] all objects.

The query answers the question *What is the Job#, Position, Employer Name, and # of Openings for jobs that have an Annual Salary of $40,000 or more?*

5 In the **Navigation Pane**, click to select the **3B Salary $40,000 or More** query. Click the **Create tab**, and then in the **Reports group**, click the **Report** button. **Close** [«] the **Navigation Pane**, and then compare your screen with Figure 3.30.

Access creates the 3B Job Openings report and displays it in Layout view. The report includes all of the fields and all of the records in the query. In Layout view, you can see the margins and page breaks in the report.

Figure 3.30



Activity 3.13 | Modifying a Report in Layout View and Printing a Report

1 On the **Design tab**, in the **Themes group**, click the **Themes** button. From the gallery of themes, scroll down, locate, and then right-click the **Waveform** theme. Click **Apply Theme to This Object Only**.

Recall that right-clicking a theme enables you to apply a predefined format to the active object only, which is another way to give a professional look to a report. Apply a theme before performing other formatting to the text in your report.

2 Click the **Job#** field name, and then click the **Arrange tab**. In the **Rows & Columns group**, click the **Select Column** button to select both the field name and the data in the field, and then press [Del] to remove the field from the report.

The Job# field is deleted, and the remaining fields move to the left. No fields extend beyond the right margin of the report.

3 Notice that for several fields, there is an extra blank line in the record. In the **Employer Name** field, click in the **text box control** that displays *Monroe Heating & Air Conditioning*. Point to the right edge of the text box control to display the [↔] pointer. Drag to the right slightly until the data in the text box control displays on one line. Scroll down to view the entire report to be sure that you have widened the column enough to accommodate all records on a single line.

You should scroll down through the report to find the text box control that displays the most text and adjust the field width using that text box control. In this manner, you can be certain that all of the data in every text box control displays on one line.

4 Click the **Position** field name, and then click the **Home tab**. In the **Sort & Filter group**, click the **Ascending** button to sort the records in the report alphabetically by Position.

5 Scroll down to the bottom of the report, and then click the **Annual Salary calculated control**, which displays a total that is truncated at the bottom. Press [Del] to remove this total.

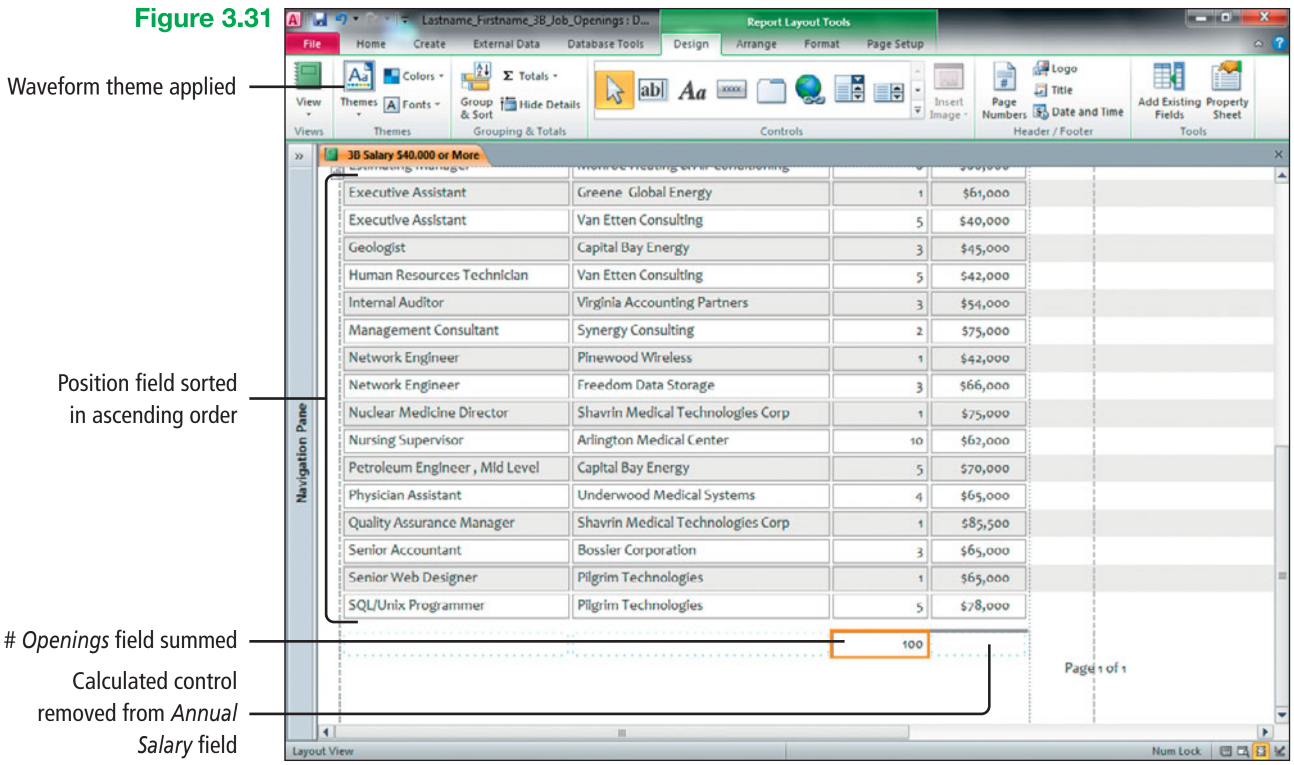
Access automatically adds a calculated control to sum any field that is formatted as currency. Here, the total is not a useful number and this can be deleted.

6 At the top of the report, click the **# Openings** field name. Click the **Design tab**. In the **Grouping & Totals group**, click the **Totals** button, and then click **Sum**.

7 Scroll down to display the last line of the report. Click in the **# Openings calculated control**, point to the bottom edge of the control to display the pointer, and then double-click to resize the control. Compare your screen with Figure 3.31.

The total number of job openings for positions with a salary equal to or greater than $40,000 is 100. Use Layout view to make quick changes to a report created with the Report tool. The Report tool is not intended to create a perfectly formatted formal report, but it is a way to summarize the data in a table or query quickly in an easy-to-read format suitable for printing and reading.

Figure 3.31



8 At the bottom of the report, notice that the **Page Number control** does not fit entirely within the margins. Click the **Page Number control** that displays *Page 1 of 1*, and then drag the pointer to the left until the page number control is visually centered between the margins of the report.

Always look at the headers and footers to determine if the data will print on one page.

9 Scroll up to display the top of the report. In the **Report Header** section, click the label control that displays *3B Salary $40,000 or More*. Click the **Format tab**, and then in the **Font group**, change the **Font Size** to **14**. Click the **label control** again so that you can edit the title. Using your own name, add **Lastname Firstname** to the beginning of the title, and then press [Enter]. If necessary, point to the right edge of the label control to display the pointer, and then double-click to fit the width of the text in the control.

10 Click any field in the report. In the upper left corner of the report, click the **layout selector**, and then drag it slightly downward and to the right until the columns are visually centered between the margins of the report. If your columns rearrange, on the Quick Access Toolbar, click Undo and begin again. Compare your screen with Figure 3.32.

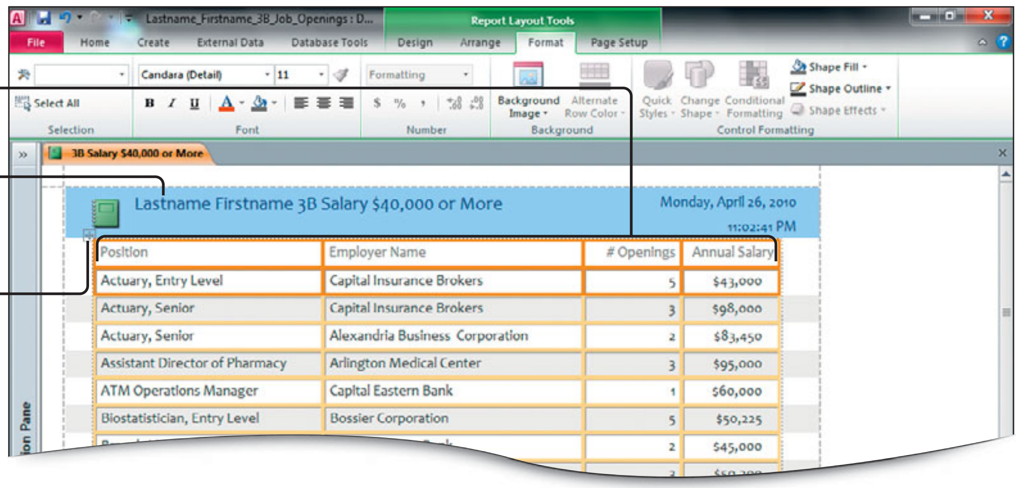
Using the layout selector, you can move the entire layout of the label controls and text box controls to horizontally center the records on the page. It is easier to control this movement if you drag downward slightly while moving the selector to the right.

Figure 3.32

Fields visually centered within margins

Your name displays in Report Header; Font Size of 14

Layout selector



Another Way

In the object window, right-click the object tab, and then click Print Preview.

11 In the lower right corner of your screen, at the right side of the status bar, click the **Print Preview** button. On the **Print Preview tab**, in the **Zoom group**, click the **Two Pages** button to view the two pages of your report. Notice that the page number displays at the bottom of each page.

12 **Save** the report as **Lastname Firstname 3B Salary $40,000 or More Report** and then create a paper or electronic printout as directed. Then **Close Print Preview**.

13 **Close** the report, and then **Open** the **Navigation Pane**. Expand the width of the **Navigation Pane**. Notice that the report displays under the source tables from which the query was created, and that a report object displays a small green notebook icon. **Close** the **Navigation Pane**.

Objective 6 | Create Reports by Using the Blank Report Tool and the Report Wizard

Use the *Blank Report tool* to create a report without predefined labels and fields. This is an efficient way to create a report, especially if you plan to include only a few fields in your report.

Activity 3.14 | Creating a Report by Using the Blank Report Tool

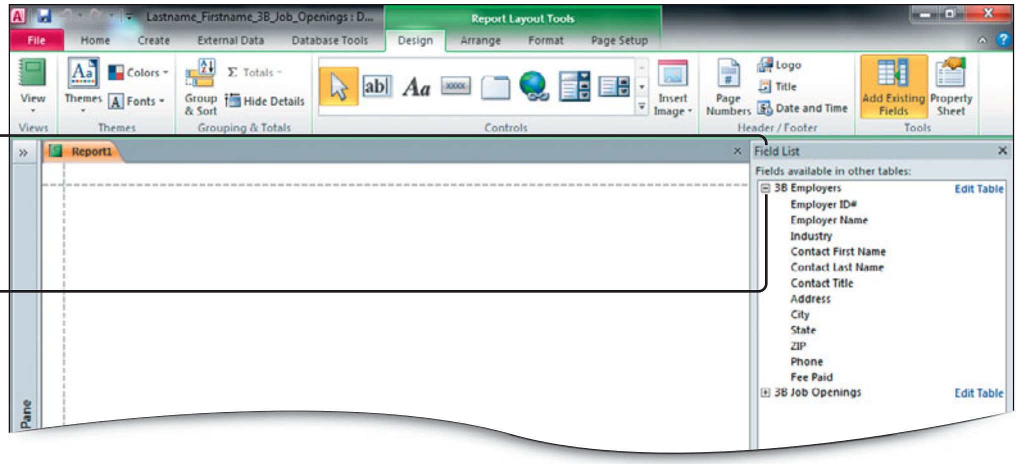
In this activity, you will build a report that lists only the Employer Name, Contact First Name, Contact Last Name, and Phone fields, which Mr. Bass will use as a quick reference for phoning the employers to verify the details of their Career Fair participation.

1 On the **Create tab**, in the **Reports group**, click the **Blank Report** button.

A blank report displays in Layout view, and the Field List pane displays.

2 In the **Field List** pane, click **Show all tables**, and then click the **plus sign** (+) next to **3B Employers** to display the field names in the table. Compare your screen with Figure 3.33.

Figure 3.33

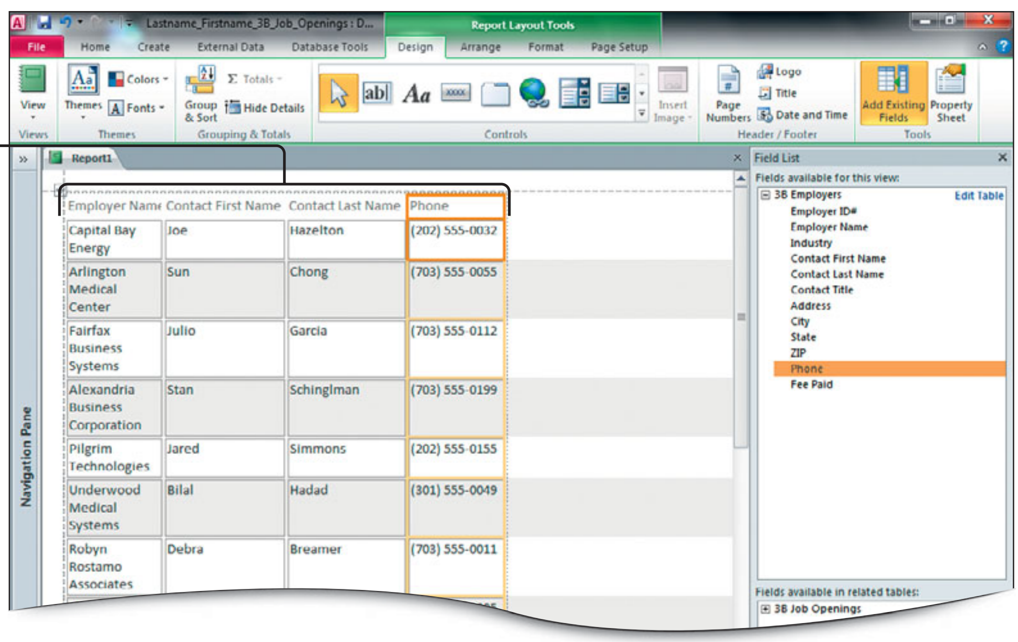


3 In the **Field List** pane, point to the **Employer Name** field, right-click, and then click **Add Field to View**.

The Employer Name field and its data display as the first column of the report. Using the Report tool, you build the report field by field in the order that you want the fields to display.

4 From the **Field List** pane, drag the **Contact First Name** field into the blank report—anywhere to the right of *Employer Name*. Double-click the **Contact Last Name** field to add it as the third field in the report. Use any technique that you just practiced to add the **Phone** field as the fourth field in the report, and then compare your screen with Figure 3.34.

Figure 3.34

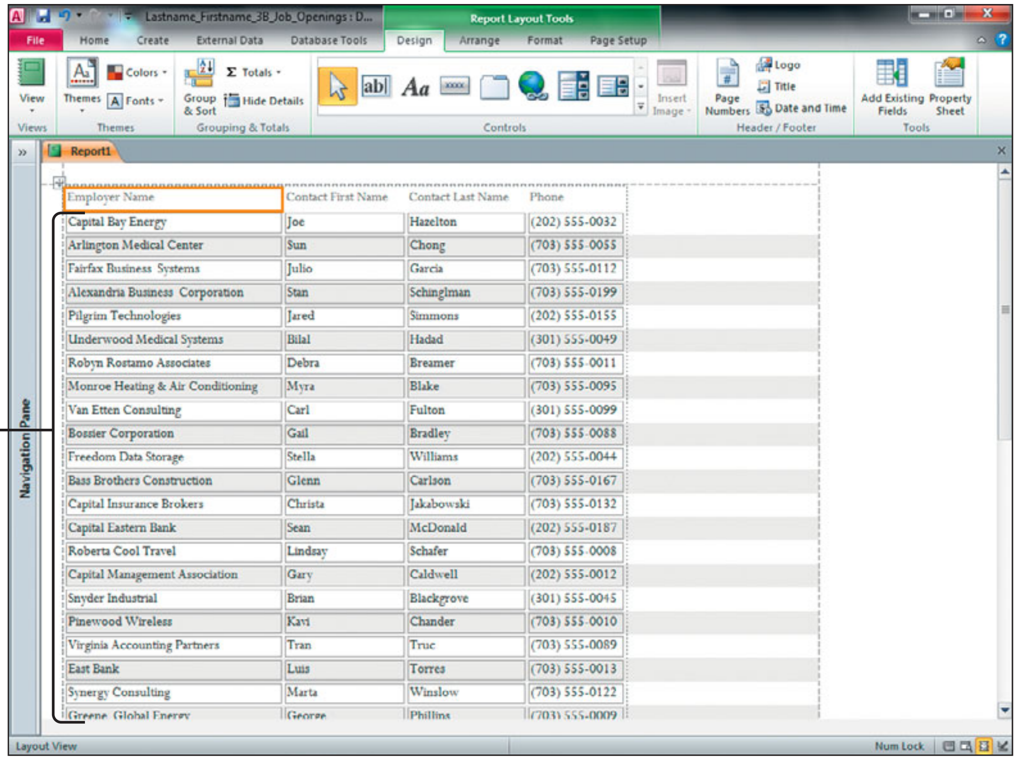


5 **Close** the **Field List** pane. On the **Design tab**, in the **Themes group**, click the **Themes** button. Right-click the **Equity** theme, and then click **Apply Theme to This Object Only**.

Recall that you should select a theme before making other formatting changes.

6 Under **Employer Name**, click in the **text box control** that displays *Monroe Heating & Air Conditioning*. Point to the right edge of the text box control to display the ⟺ pointer, and then drag to the right until the data in the text box control displays on one line and there is a small amount of space between the name and the next column. Compare your screen with Figure 3.35.

Figure 3.35



7 On the **Design tab**, in the **Header/Footer group**, click the **Date and Time** button. In the **Date and Time** dialog box, clear the **Include Time** check box, and then click **OK**.

The current date displays in the upper right corner of the report.

8 In the **Header/Footer group**, click the **Title** button, and then using your own name, type **Lastname Firstname 3B Employer Phone List** and then press Enter. Click the **Format tab**. With the title still selected, in the **Font group**, change the **Font Size** to **14**. Point to the right edge of the title's label control to display the ⟺ pointer, and then double-click to adjust the size of the label control.

The title's label control width adjusts, and the Date control moves to the left within the margin.

Another Way

Click the first field name, and then click the Arrange tab. In the Rows & Columns group, click the Select Row button.

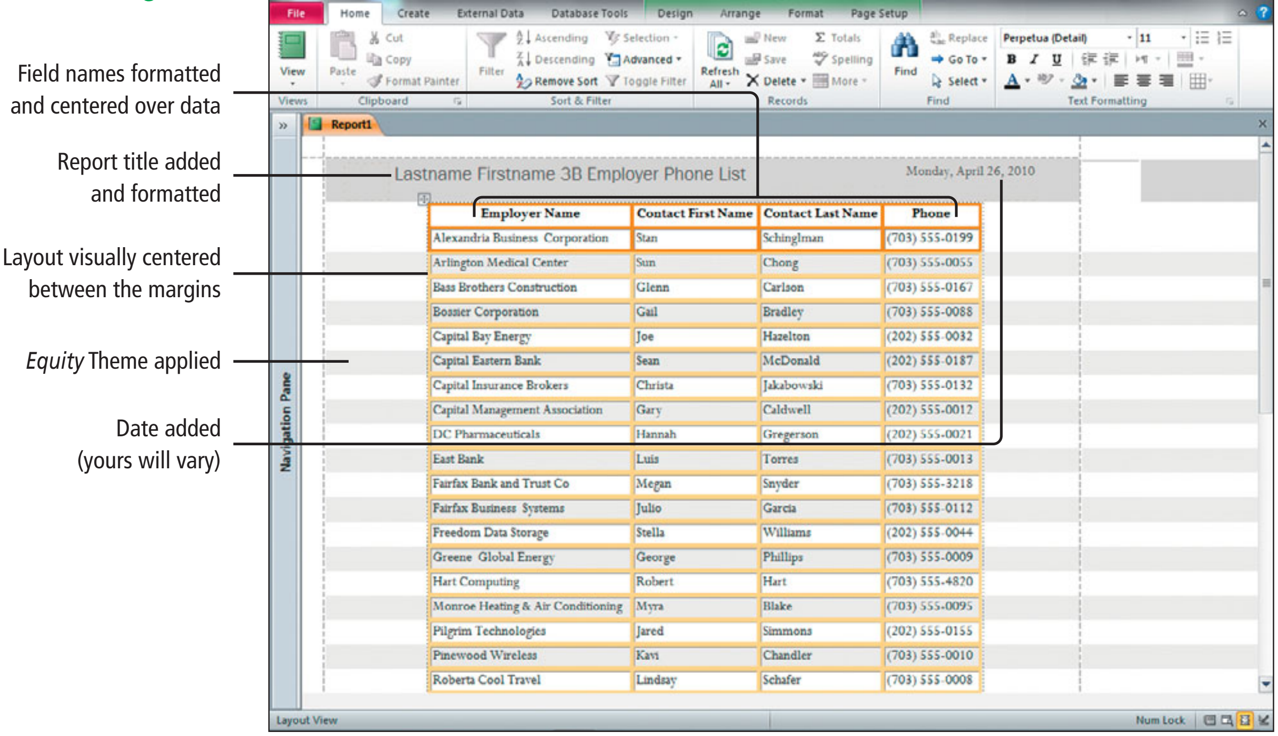
9 Click the **Employer Name** field name to select it. Hold down Shift, and then click the **Phone** field name to select all four field names. On the **Format tab**, in the **Font group**, click the **Center** button to center the field names over the data in the columns. Change the **Font Color** to **Automatic**, and then apply **Bold** **B**.

10 Click any one of the **Employer Name text box controls**, and then click the **Home tab**. In the **Sort & Filter group**, click the **Ascending** button to sort the records in the report alphabetically by Employer Name.

11 In the upper left corner of the report, click the **layout selector** ⊞, and then drag it downward slightly and to the right to visually center the fields between the margins. Compare your screen with Figure 3.36.

Recall that it is easier to control this movement if you drag down slightly while moving the layout selector.

Figure 3.36



12 **Save** the report as **Lastname Firstname 3B Employer Phone List** and then on the status bar, click the **Print Preview** button. Create a paper or electronic printout as directed.

13 **Close Print Preview**, and then **Close** the report. **Open** the **Navigation Pane**, and notice that the report displays below the *3B Employers* table—the underlying data source. **Close** the **Navigation Pane**.

Activity 3.15 | Creating a Report by Using the Report Wizard

Use the ***Report Wizard*** when you need flexibility and want to control the report content and design. The Report Wizard enables you to specify how the data is grouped and sorted. You can use fields from more than one table or query, assuming you have created the appropriate relationships between the tables. The Report Wizard is similar to the Form Wizard; it creates a report by asking you a series of questions and then designs the report based on your answers.

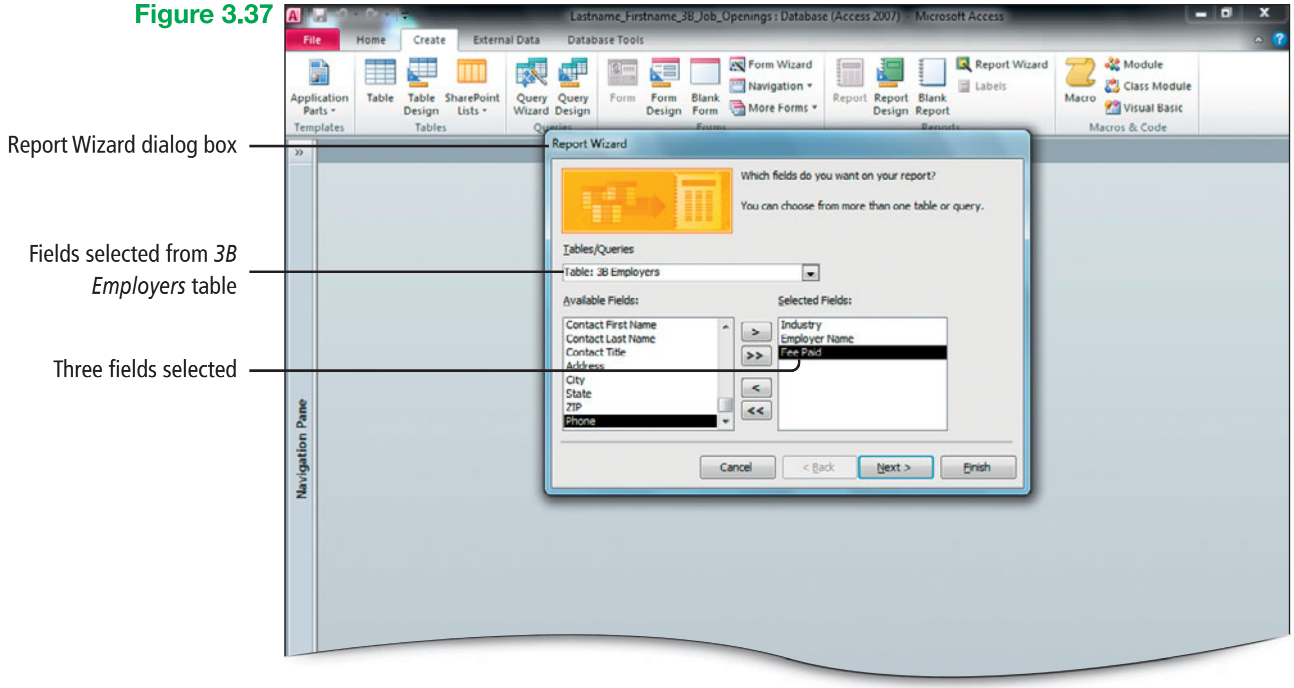
In this activity, you will prepare a report for Mr. Bass that displays the employers, grouped by industry, and the total fees paid by employers for renting a booth at the Career Fair.

1 Click the **Create tab**, and then in the **Reports group**, click the **Report Wizard** button.

Here you select the tables or queries from which you want to extract information, and then select the fields to include in the report. You can also select more than one table or query.

2 Click the **Tables/Queries arrow**, and then click **Table: 3B Employers**. Move the following fields to the **Selected Fields** list in the order given: **Industry**, **Employer Name**, and **Fee Paid** (scroll down as necessary to locate the *Fee Paid* field). Compare your screen with Figure 3.37.

Figure 3.37



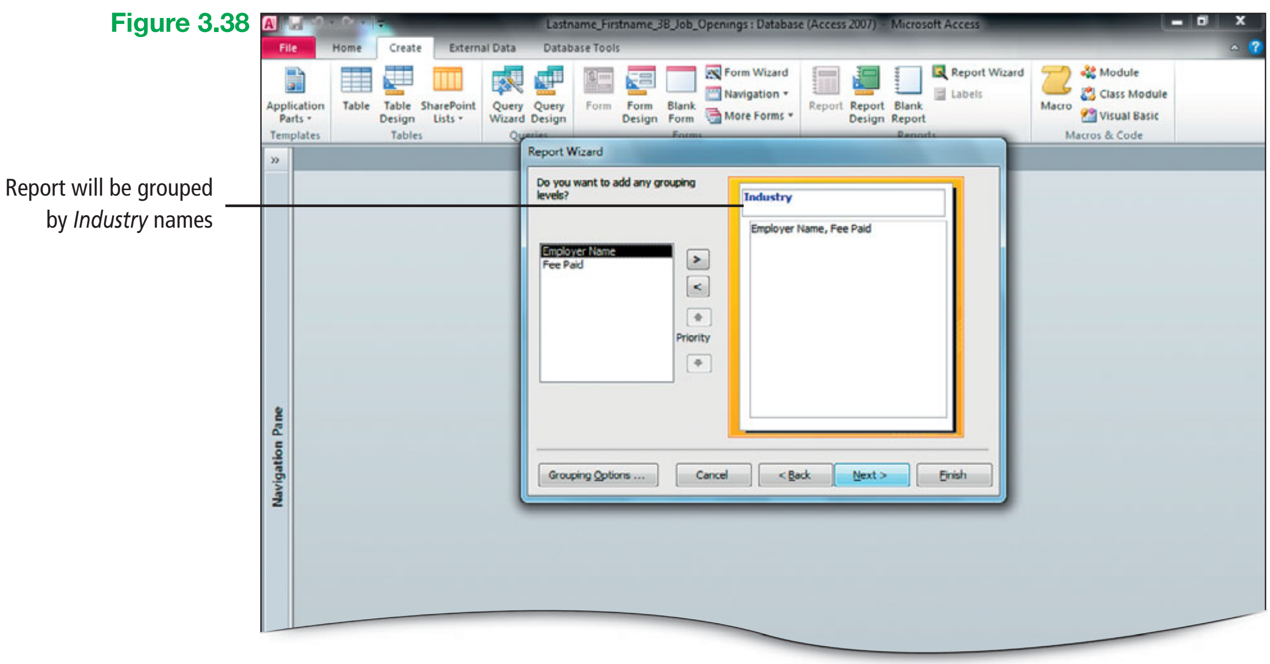
3 Click **Next**, and notice that in this dialog box, you can add grouping levels. A preview of the grouping level displays on the right side of the dialog box.

Grouping data helps to organize and summarize the data in your report.

4 With **Industry** selected, click the **One Field** button [>], and then compare your screen with Figure 3.38.

The preview window displays how the data will be grouped in the report. Grouping data in a report places all of the records that have the same data in a field together as a group—in this instance, each *Industry* will display as a group.

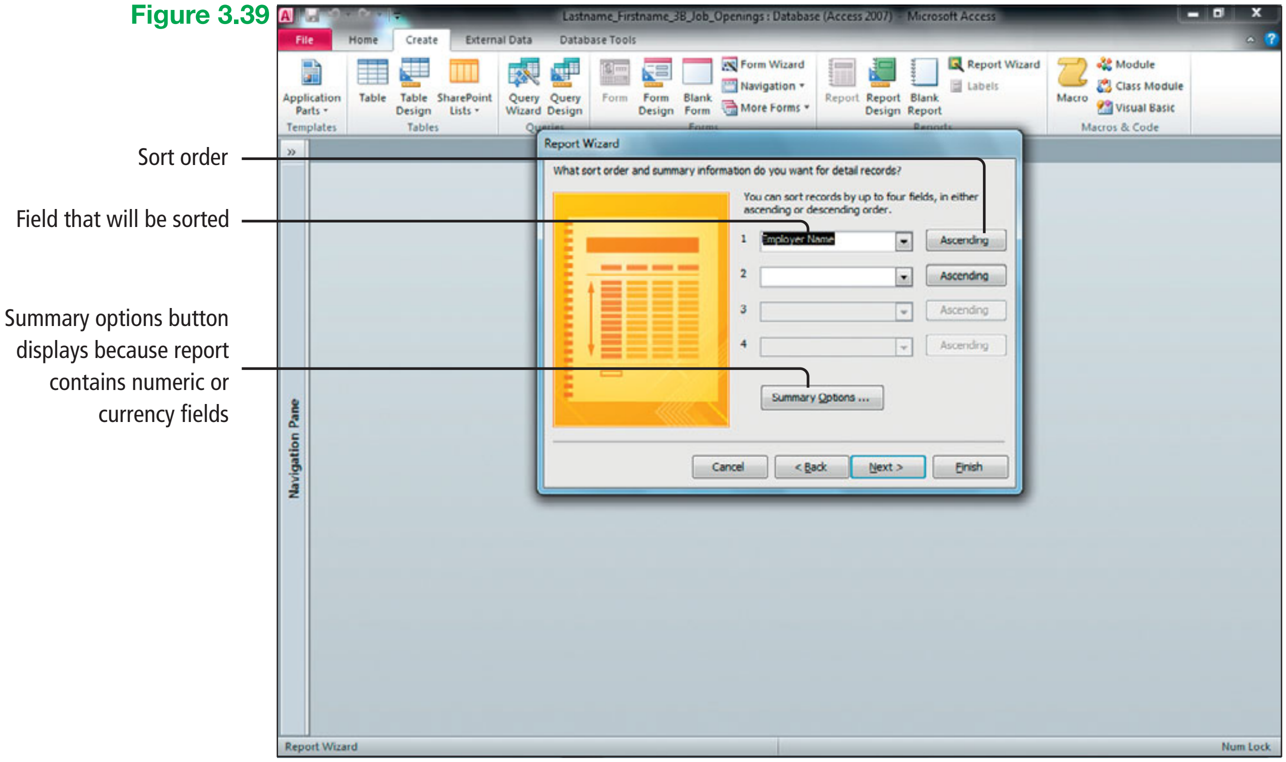
Figure 3.38



5 Click **Next**, and then click the **1** box **arrow**. Click **Employer Name**, and then compare your screen with Figure 3.39.

Here you indicate how you want to sort and summarize the information. You can sort on up to four fields. The Summary Options button displays because the data is grouped and contains numerical or currency data. The records in the report will sort alphabetically by Employer Name within Industry. Sorting records in a report presents a more organized report.

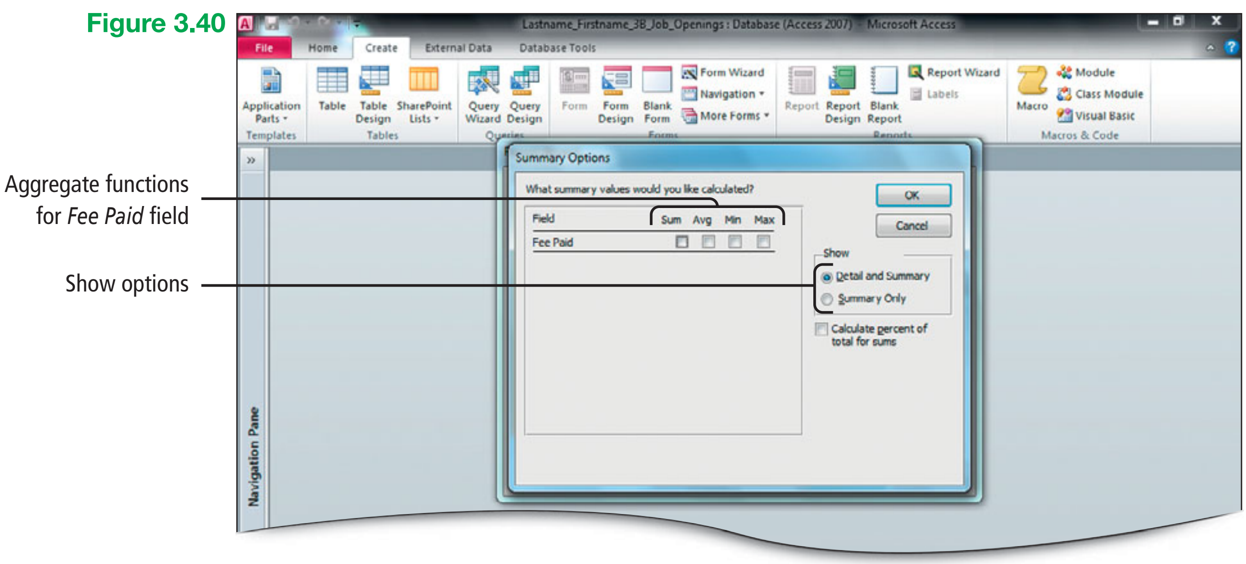
Figure 3.39



6 In the **Report Wizard** dialog box, click the **Summary Options** button, and then compare your screen with Figure 3.40.

The Summary Options dialog box displays. The Fee Paid field can be summarized by selecting one of four options—Sum, Avg, Min, or Max. You can also choose to display only summary information or to display both details—each record—and the summary information.

Figure 3.40



7 To the right of **Fee Paid**, select the **Sum** check box. Under **Show**, be sure that the **Detail and Summary** option button is selected, click **OK**, and then click **Next**.

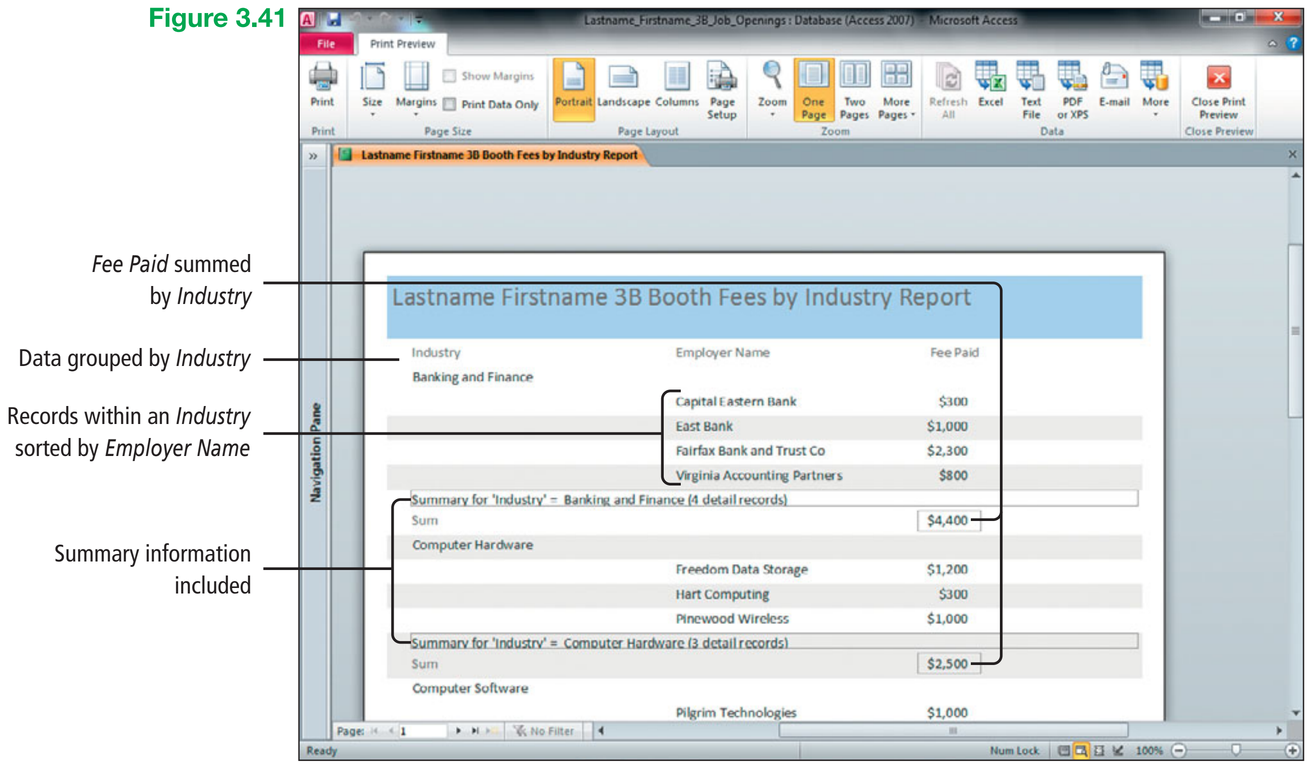
Here you select the layout and the page orientation. A preview of the layout displays on the left.

8 Click each **Layout** option button, noticing the changes in the preview box, and then click the **Stepped** option button to select it as the layout for your report. Under **Orientation**, be sure that **Portrait** is selected. At the bottom, be sure that the **Adjust the field width so all fields fit on a page** check box is selected, and then click **Next**.

9 In the **What title do you want for your report?** box, select the existing text, type **Lastname Firstname 3B Booth Fees by Industry Report** and then click **Finish**. Compare your screen with Figure 3.41.

The report is saved and displays in Print Preview. Each of the specifications you defined in the Report Wizard is reflected in the report. The records are grouped by Industry, and then within each Industry, the Employer Names are alphabetized. Within each Industry grouping, the Fee Paid is summed or totaled—the word *Sum* displays at the end of each grouping.

Figure 3.41



10 **Close Print Preview**. On the status bar, click the **Layout View** button.

Objective 7 | Modify the Design of a Report

After you create your report, you can modify its design by using tools and techniques similar to those you used to modify the design of a form. You can change the format of controls, add controls, remove controls, or change the placement of controls in the report. Most report modifications can be made in Layout view.

Activity 3.16 | Formatting and Deleting Controls in Layout View

1 With your **3B Booth Fees by Industry** report in **Layout** view, on the **Design tab**, in the **Themes group**, click the **Themes** button. In the **Themes gallery**, scroll down, and right-click the **Opulent** theme. Click **Apply Theme to This Object Only**.

2 Click the title—**3B Booth Fees by Industry Report**—to display a border around the label control, and then click the **Format tab**. In the **Font group**, change the **Font Size** to **14**, and then apply **Bold** **B**.

3 Within each *Industry* grouping, notice the **Summary for 'Industry'** information.

Access includes a summary line that details what is being summarized (in this case, summed) and the number of records that are included in the summary total. Now that Mr. Bass has viewed the report, he has decided this information is not necessary and can be removed.

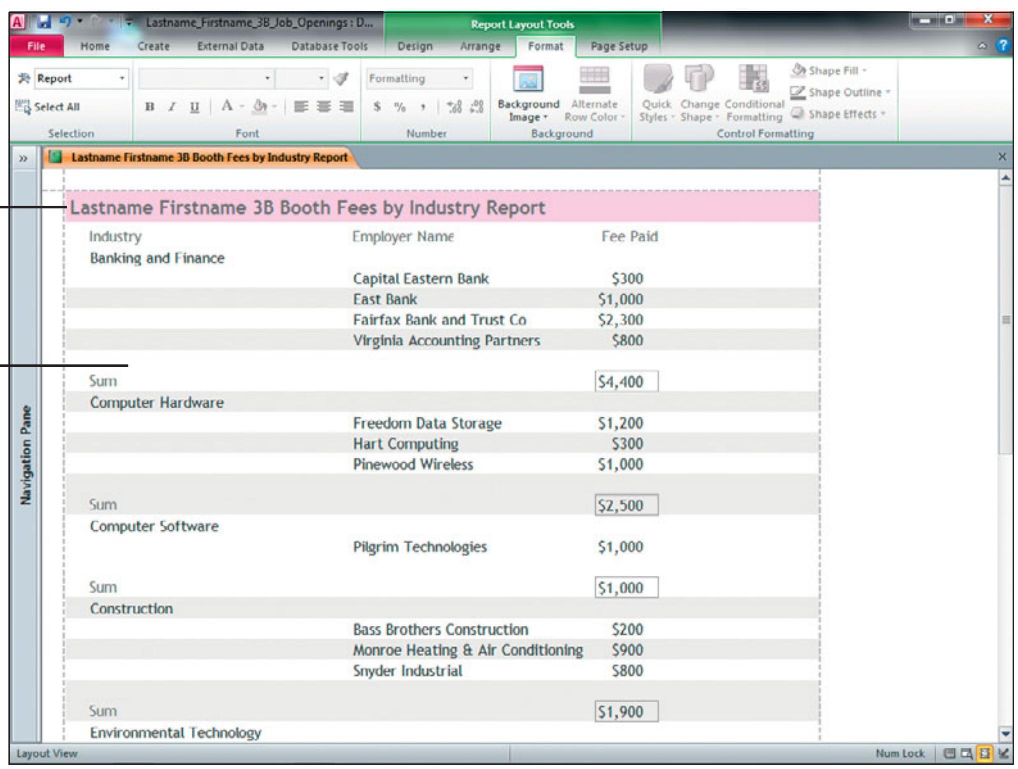
4 Click any one of the **Summary for 'Industry' controls**.

The control that you clicked is surrounded by a dark border, and all of the related controls are surrounded by paler borders to indicate that all are selected.

> **Another Way**
> Right-click any of the selected controls, and then click Delete.

5 Press Del to remove the controls from the report. Compare your screen to Figure 3.42.

Figure 3.42



Title formatted; Opulent Theme applied

Summary for 'Industry' label controls deleted

6 **Save** the changes you have made to the report.

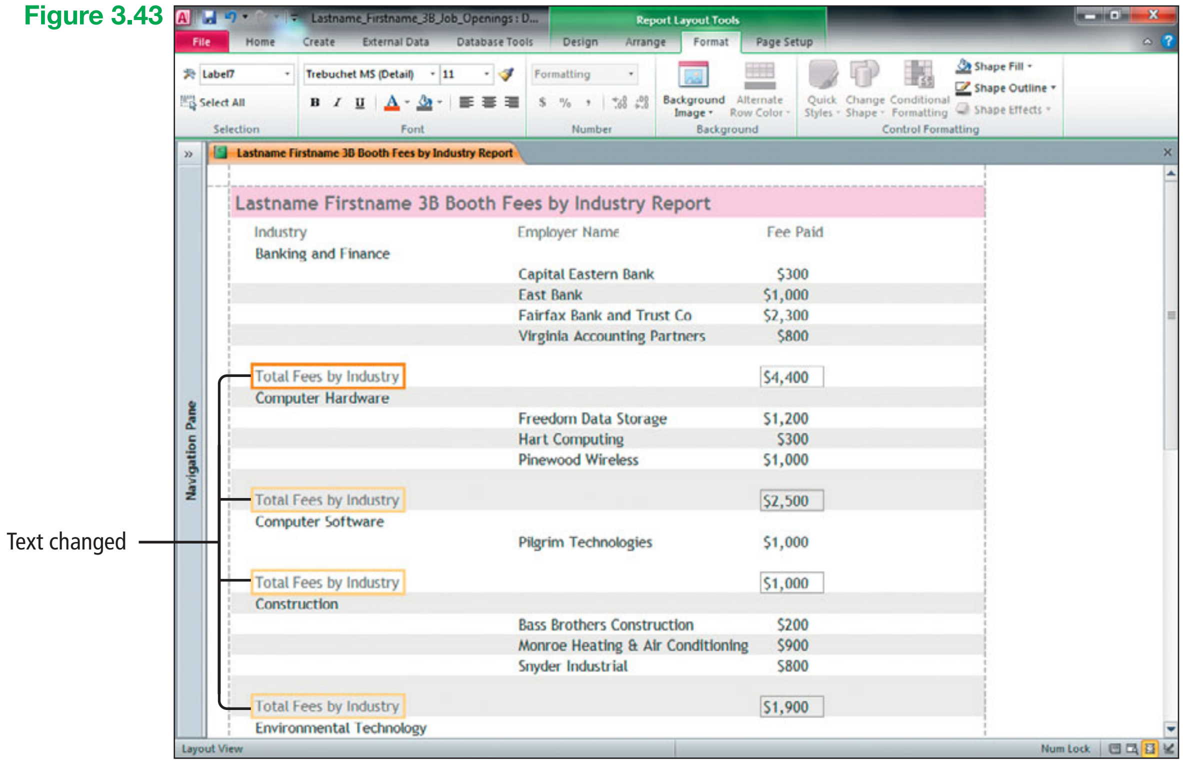
Activity 3.17 | Modifying Controls in Layout View

In this activity, you will modify the text in controls, move controls, resize controls, and add a control to the report, all of which is easily accomplished in Layout view.

1 On the left side of the report, click one of the **Sum label controls** to select all of the controls, and then double-click to select the text. Type **Total Fees by Industry** and then press Enter. Compare your screen with Figure 3.43.

The new text more clearly states what is being summed.

Figure 3.43



2 At the top of your report, click to select the **Industry label control**. Hold down Shift, click the **Employer Name label control**, and then click the **Fee Paid label control** to select all three field names. On the **Format tab**, in the **Font group**, click the **Bold** button **B**.

3 Scroll down to view the end of the report. Click to select the **calculated control** for the **Grand Total**, which displays *20,400*. Point to the left edge of the control to display the ⟺ pointer. Drag to the left slightly and release the mouse to display **$20,400**.

This control is an example of a ***calculated control***—a control that contains an expression, often a formula—that uses one or more fields from the underlying table or query.

4 On the left side of the report, increase the width of the right edge of the **Grand Total label control** so that all of the text displays, and then **Save** the report.

Activity 3.18 | Aligning Controls in Design View

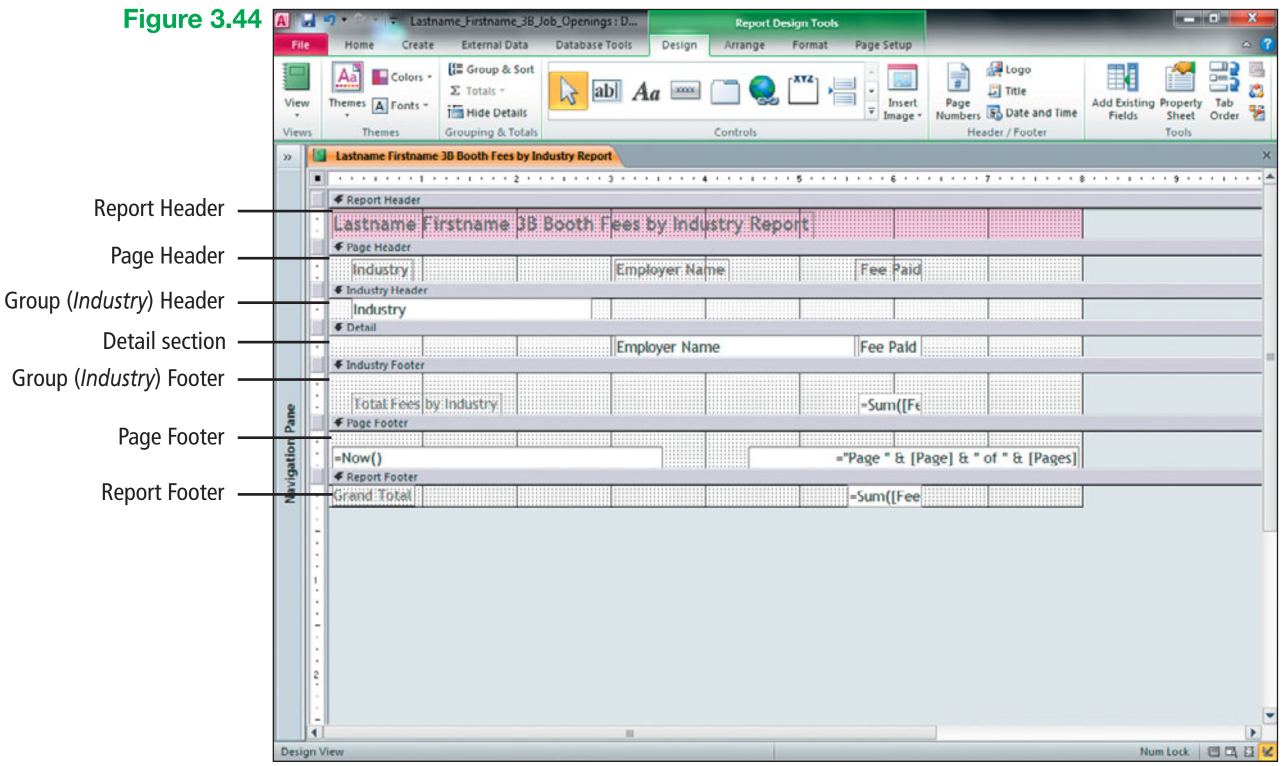
Design view gives you a more detailed view of the structure of your report. You can see the header and footer sections for the report, for the page, and for groups. In Design view, your report is not actually running, so you cannot see the underlying data while you are working. In the same manner as forms, you can add labels to the Page Footer section or increase the height of sections. Some tasks, such as aligning controls, can also be completed in Design view.

1 On the status bar, click the **Design View** button, and then compare your screen with Figure 3.44.

The Design view for a report is similar to the Design view for a form. You can modify the layout of the report in this view, and use the dotted grid pattern to align controls. This report contains a ***Report Header***, a ***Page Header***, a ***Group Header***, which in this instance is the *Industry* grouping, a Detail section that displays the data, a ***Group Footer*** (*Industry*), a ***Page Footer***, and a ***Report Footer***.

The Report Header displays information at the top of the *first page* of a report. The Page Header displays information at the top of *every page* of a report. The Group Header and Group Footer display the field label by which the data has been grouped—*Industry* in this instance. If you do not group data in a report, the Group Header does not display. Similarly, if you do not summarize data, the Group Footer does not display.

Figure 3.44



2 In the **Page Footer** section of the report, examine the two controls in this section.

The Page Footer displays information at the bottom of *every page* in the report, including the page number and the current date inserted by those controls.

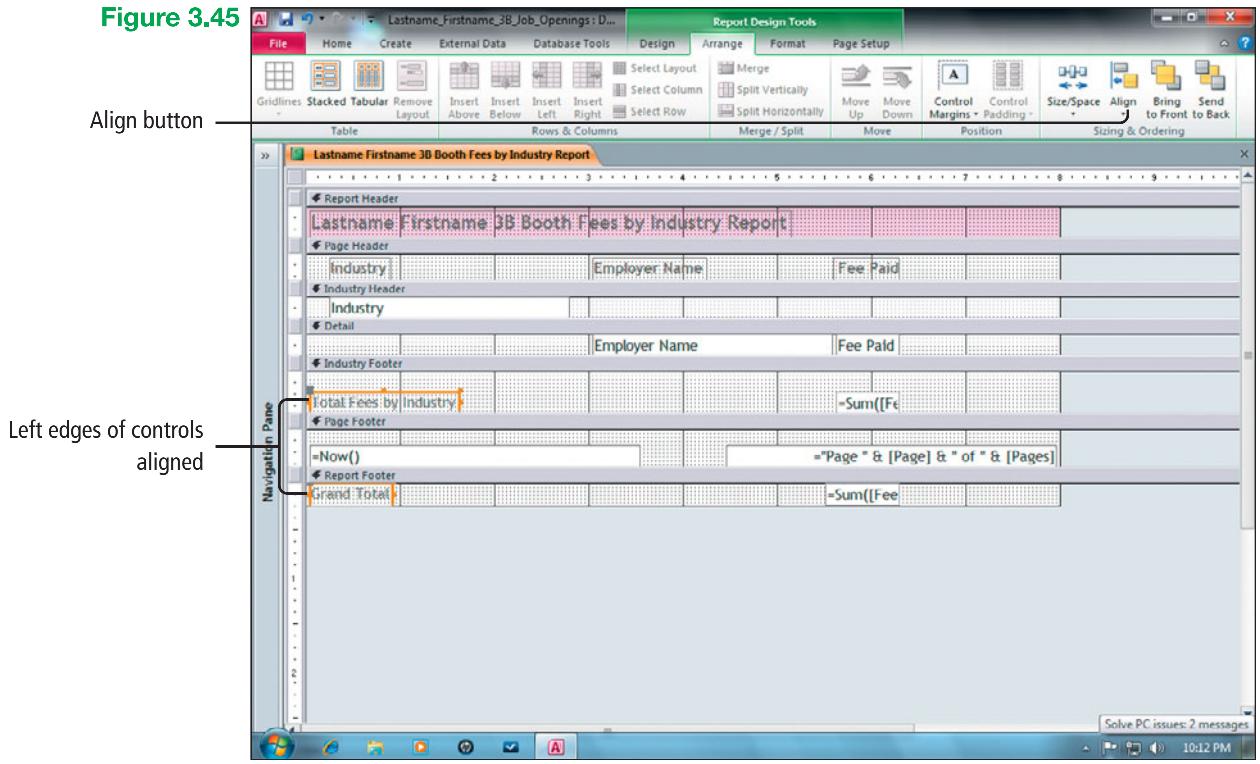
The ***date control*** on the left side, displayed as *=Now( )*, inserts the current date each time the report is opened. The ***page number control*** on the right side, displayed as *="Page " & [Page] & " of " & [Pages]*, inserts the page number, for example Page 1 of 2, in the report when the report is displayed in Print Preview or when printed. Both of these are examples of functions that are used by Access to create controls in a report.

3 In the **Industry Footer** section, click the **Total Fees by Industry label control**. Hold down Shift. In the **Report Footer** section, click the **Grand Total label control** to select both controls.

4 On the **Arrange tab**, in the **Sizing & Ordering group**, click the **Align** button, and then click **Left**. **Save** the report, and then compare your screen with Figure 3.45.

The left edge of the Grand Total label control is aligned with the left edge of the Total Fees by Industry label control. When using the Align Left feature, Access aligns the left edges of controls with the control that is farthest to the left in the report. Similarly, when using the Align Right feature, Access aligns the right edges of controls with the control that is farthest to the right in the report.

Figure 3.45



5 Switch to **Layout** view to display the underlying data in the controls. Scroll down, and notice that the **Total Fees by Industry label controls** and the **Grand Total label control** are left aligned.

Objective 8 | Print a Report and Keep Data Together

Before you print a report, examine the preview of the report to ensure that all of the labels and data display fully and to make sure that all of the data is properly grouped. Sometimes a page break occurs in the middle of a group of data, leaving the labels on one page and the data or totals on another page.

Activity 3.19 | Keeping Data Together and Printing a Report

It is possible to keep the data in a group together so it does not break across a page unless, of course, the data itself exceeds the length of a page.

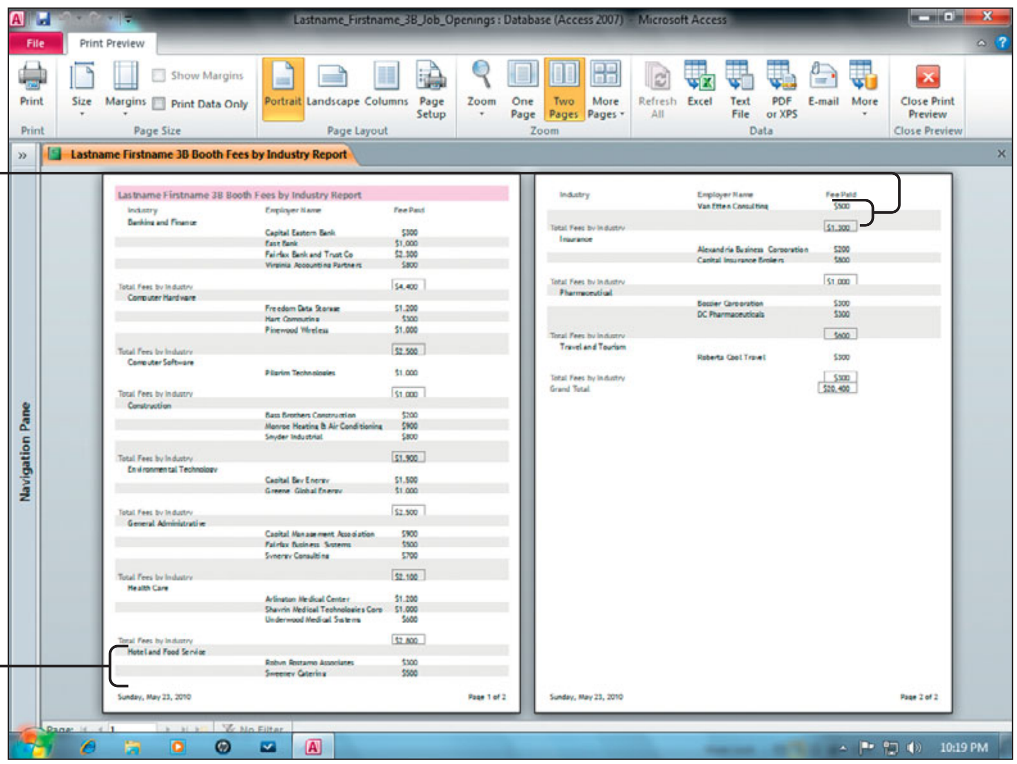
1 On the status bar, click the **Print Preview** button. If necessary, in the **Zoom group**, click the **Two Pages** button, and then compare your screen with Figure 3.46.

This report will print on two pages. One record and the summary data for the *Hotel and Food Service* group display at the top of page 2, which is separated from the rest of the grouping.

Figure 3.46

Top of second page—one record and summary data

Bottom of first page—*Industry* grouping name and two records



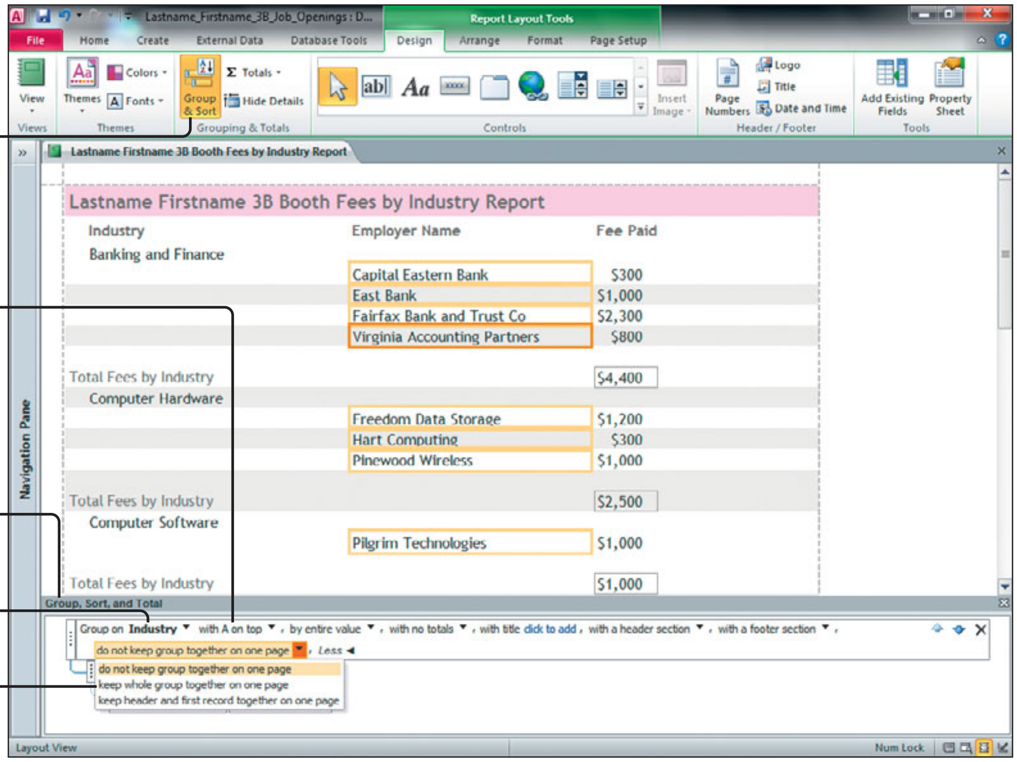
2 Click the **Close Print Preview** button to return to **Layout** view. On the **Design tab**, in the **Grouping & Totals group**, click the **Group & Sort** button.

At the bottom of the screen, the ***Group, Sort, and Total pane*** displays. Here you can control how information is grouped, sorted, or totaled. Layout view is the preferred view in which to accomplish such tasks, because you can see how the changes affect the display of the data.

3 In the **Group, Sort, and Total** pane, on the **Group on Industry bar**, click **More**. To the right of **do not keep group together on one page**, click the **arrow**, and then compare your screen with Figure 3.47.

The *keep whole group together on one page* command keeps each industry group together, from the name in the group header through the summary in the group footer. Next to *Group on Industry*, *with A on top* indicates that the industry names display in ascending sort order. The default setting is *do not keep group together on one page*.

Figure 3.47

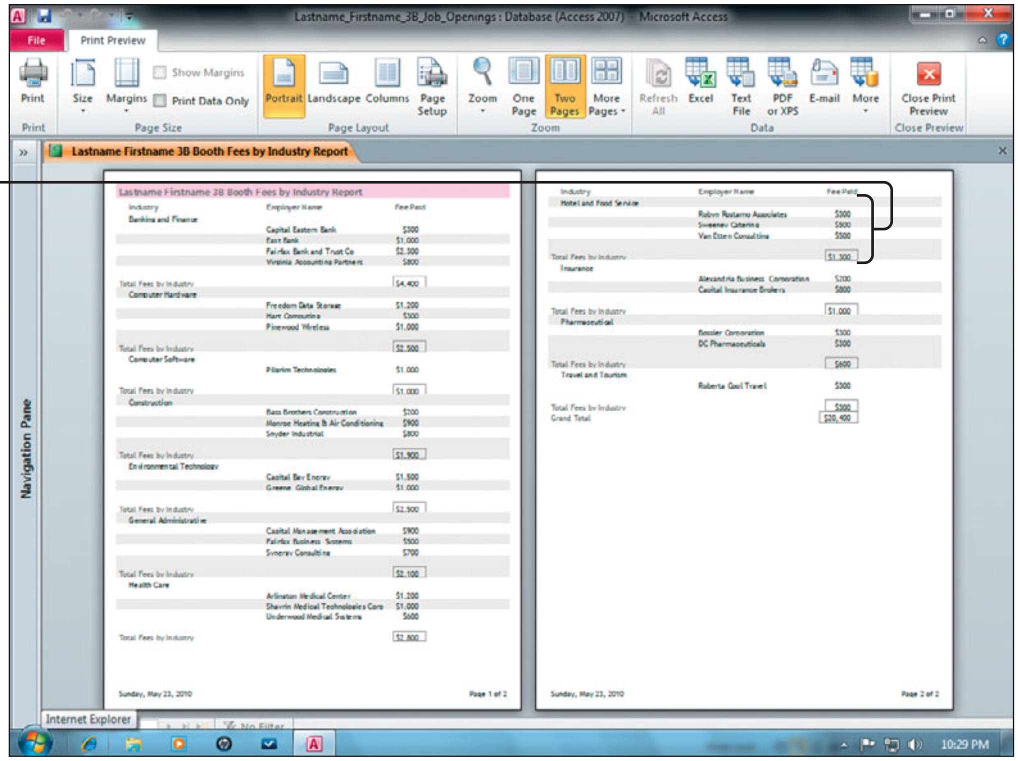


4 Click **keep whole group together on one page**. In the **Grouping & Totals group**, click the **Group & Sort** button to close the **Group, Sort, and Total** pane. On the status bar, click the **Print Preview** button. If necessary, in the Zoom group, click the Two Pages button. Compare your screen with Figure 3.48.

All the records in the *Hotel and Food Service* industry group—the group header, the three records, and the summary information—display together at the top of page 2.

Figure 3.48

Entire industry group displays together



5 **Save** the report. Create a paper or electronic copy of the report as directed.

6 **Close Print Preview**, and then **Close** the report. **Open** the **Navigation Pane**, and, if necessary, increase the width of the pane so that all object names display fully.

7 Display **Backstage** view, click **Close Database**, and then click **Exit**. As directed by your instructor, submit your database and the three paper or electronic printouts that are the results of this project.

End **You have completed Project 3B**

Content-Based Assessments

Summary

A form is an object for either entering or viewing information in a database—it creates a user interface for people using the database. A form is easy to use, because it can display one record at a time. Reports summarize the data in a database in a professional-looking manner suitable for printing. There are several tools for creating forms and reports, and you can modify forms and reports in Layout view or Design view.

Key Terms

Matching

Match each term in the second column with its correct definition in the first column by writing the letter of the term on the blank line in front of the correct definition.

A Bound
B Bound control
C Calculated control
D Control
E Control layout
F Date control
G Design view
H Detail section
I Form footer
J Form header
K Label control
L Layout view
M Section bar
N Text box control
O Unbound control

_____ 1. The Access view in which you can make changes to a form or report while viewing the data.

_____ 2. The term used to describe objects and controls that are based on data that is stored in tables.

_____ 3. An Access view that displays the detailed structure of a query, form, or report.

_____ 4. Information, such as a form's title, that displays at the top of the screen in Form view and is printed at the top of the first page when records are printed as forms.

_____ 5. The section of a form or report that displays the records from the underlying table or query.

_____ 6. Information at the bottom of the screen in Form view that prints after the last detail section on the last page.

_____ 7. A gray bar in a form or report that identifies and separates one section from another.

_____ 8. An object on a form or report that displays data, performs actions, and lets you work with information.

_____ 9. The graphical object on a form or report that displays the data from the underlying table or query.

_____ 10. A control that retrieves its data from an underlying table or query.

_____ 11. A control on a form or report that contains descriptive information, typically a field name.

_____ 12. A control that does not have a source of data, such as a title in a form or report.

_____ 13. The grouped arrangement of controls on a form or report.

_____ 14. A control that contains an expression, often a formula, that uses one or more fields from the underlying table or query.

_____ 15. A control on a form or report that inserts the current date each time the form or report is opened.

Multiple Choice

Circle the correct answer.

1. An Access object to enter new records into a table, edit or delete existing records in a table, or display existing records is a:
A. bound control **B.** form **C.** report

2. The order that the insertion point moves from one field to another in a form when you press Tab is the:
A. data entry order **B.** control order **C.** tab order

3. A small symbol that displays in the upper left corner of a selected control layout in a form or report that is displayed in Layout view and that is used to move an entire group of controls is the:
A. control layout **B.** label control **C.** layout selector

4. A list of characteristics for controls on a form or report in which you can make precise changes to each property associated with the control is the:
A. bound control **B.** control layout **C.** Property Sheet

5. The process of displaying only a portion of the total records (a subset) based on matching a specific value is:
A. filtering **B.** reporting **C.** zooming

6. An Access command that filters the records in a form based on one or more fields, or based on more than one value in the field is Filter by:
A. Form **B.** Selection **C.** Subset

7. A condition in which records that match at least one of the specified values are displayed is:
A. AND **B.** BOTH **C.** OR

8. A database object that summarizes the fields and records from a table or query in an easy-to-read format suitable for printing is a:
A. control **B.** form **C.** report

9. Information printed at the end of each group of records and that is used to display summary information for the group is called a:
A. group footer **B.** group header **C.** Group, Sort, and Total pane

10. A predefined format that can be applied to the entire database or to individual objects in the database is called a:
A. group header **B.** subset **C.** theme

Content-Based Assessments

Apply 3A skills from these Objectives:

1. Create and Use a Form to Add and Delete Records
2. Create a Form by Using the Form Wizard
3. Modify a Form in Layout View and in Design View
4. Filter Records

Skills Review | Project 3C Student Advising

In the following Skills Review, you will assist Gerald Finn, the Dean of Information Technology, in using an Access database to track students and their faculty advisors. Your completed forms will look similar to Figure 3.49.

Project Files

For Project 3C, you will need the following file:

a03C_Student_Advising

You will save your database as:

Lastname_Firstname_3C_Student_Advising

Project Results

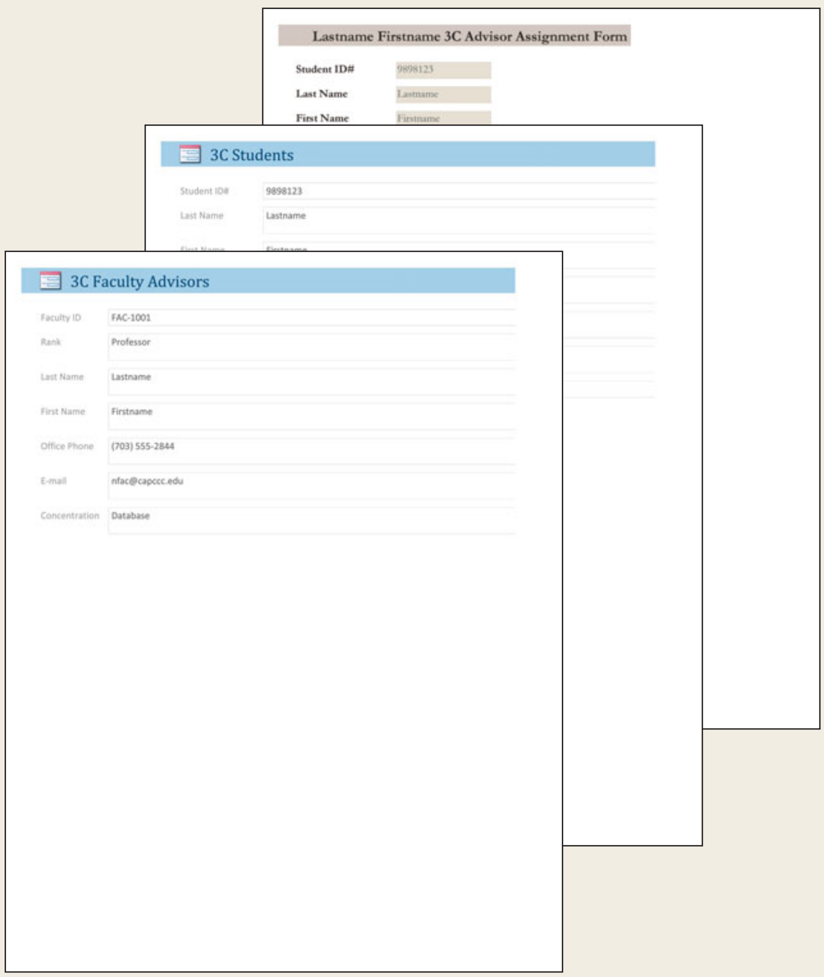


Figure 3.49

(Project 3C Student Advising continues on the next page)

Content-Based Assessments

Skills Review | Project 3C Student Advising (continued)

1 **Start** Access. In **Backstage** view, click **Open**, and then from your student files open the **a03C_Student_Advising** database. In **Backstage** view, click **Save Database As**. Save the database in your **Access Chapter 3** folder as **Lastname_Firstname_3C_Student_Advising** On the **Message Bar**, click the **Enable Content** button.

a. On the **Database Tools tab**, in the **Relationships group**, click the **Relationships** button. Notice the one-to-many relationship between the 3C Faculty Advisors table and the 3C Students table using the Faculty ID and Faculty Advisor ID fields as the common fields. *One* faculty member can advise *many* students. Recall that common fields do not need to have the same name; they must have the same data type. **Close** the **Relationships** window.

b. In the **Navigation Pane**, select the **3C Students** table. Click the **Create tab**, and then in the **Forms group**, click the **Form** button. **Save** the form as **Lastname Firstname 3C Student Form** and then **Close** the form object.

c. In the **Navigation Pane**, select the **3C Faculty Advisors** table. Click the **Create tab**, and then in the **Forms group**, click the **Form** button. **Close** the **Navigation Pane**, and then notice that *Faculty ID FAC-2877*, for *Professor Treiman*, has been assigned one student for advising.

d. **Close** the form, saving it as **Lastname Firstname 3C Faculty Advisor Form**

2 **Open** the **Navigation Pane**, and increase the width to display fully the object names. Open your **3C Student Form** object, and then **Close** the **Navigation Pane**. In the navigation area, click the **New (blank) record** button. In the **Student ID#** field, type **9898123** and then press Tab.

a. Using your own name, continue entering the data as shown in **Table 1**.

b. In the last field, press Tab to save the record and display a new blank record. **Close** the **3C Student Form** object, and then **Open** the **Navigation Pane**.

c. **Open** your **3C Faculty Advisor Form** object, and then **Close** the **Navigation Pane**. Notice that in the first record, your record displays in the subdatasheet for Professor Treiman. At the bottom of your screen, in the navigation area for the form—not the navigation area for the related records in the form itself—click the **New (blank) record** button. In the blank form, using your own name, enter the information in **Table 2**, being sure to press Tab after entering the data in the last field.

d. In the navigation area, click the **First record** button. Click in the **Last Name** field, and then on the **Home tab**, in the **Find group**, click the **Find** button to open the **Find and Replace** dialog box. In the **Find What** box, type **Holland** and then click **Find Next**. **Close** the **Find and Replace** dialog box.

e. On the **Home tab**, in the **Records group**, click the **Delete button arrow**, and then click **Delete Record** to delete the record for Professor Holland—because Professor Holland has no student advisees assigned, he can be deleted from the table. In the message box, click **Yes** to delete the record. In the navigation area for the form, notice that the number of records in the table is *18*.

f. Use the **Find** button to display the form for the **Faculty ID** of **FAC-1001** Display **Backstage** view. Click the **Print tab**, and then in the right panel, click **Print**. In the **Print** dialog box, under **Print Range**, click the **Selected Record(s)** option button, and then click **Setup**. In the **Page Setup** dialog box, click the **Columns tab**. Under **Column Size**, in the **Width** box, delete the existing text, type **7.5** and then click **OK** two times to print only your record in the form layout, or create an electronic printout. **Close** the **3C Faculty Advisor Form** object, and then **Open** the **Navigation Pane**.

Table 1

Student ID#	Last Name	First Name	Phone Number	E-mail	Concentration	Faculty Advisor ID
9898123	Lastname	Firstname	(703) 555-1257	ns0001@capccc.edu	Network Security	FAC-2877

(Return to Step 2-b)

Table 2

Faculty ID	Rank	Last Name	First Name	Office Phone	E-mail	Concentration
FAC-1001	Professor	Lastname	Firstname	(703) 555-2844	nfac@capccc.edu	Database

(Return to Step 2-d)

(Project 3C Student Advising continues on the next page)

Skills Review | Project 3C Student Advising (continued)

g. Open your **3C Student Form** object, and then **Close** the **Navigation Pane**. Click in the **Last Name** field. Press Ctrl + F to display the **Find and Replace** dialog box. Enter the information to find the record where the **Last Name** field contains your **Lastname** and then **Print** only the selected record, changing the **Column Size Width** to **7.5** or create an electronic printout. **Close** the **3C Student Form** object, and then **Open** the **Navigation Pane**.

3 In the **Navigation Pane**, click to select the **3C Students** table. On the **Create tab**, in the **Forms group** click the **Form Wizard** button.

a. Under **Tables/Queries**, be sure that **Table: 3C Students** displays. Using the **One Field** button or by double-clicking, move the following fields to the **Selected Fields** list in the order specified: **First Name**, **Last Name**, and **Faculty Advisor ID**.

b. Click **Next**. Be sure **Columnar** is selected as the layout, and then click **Next**. In the box **What title do you want for your form?**, select the existing text, and then type **Lastname Firstname 3C Advisor Assignment Form** and then click **Finish** to close the wizard and create the form.

4 **Close** the **Navigation Pane**. Be sure your **3C Advisor Assignment Form** displays. In the lower right corner of your screen, click the **Layout View** button. Click the **First Name label control**. Hold down Shift, and then click the **Last Name label control**, the **Faculty Advisor ID label control**, and the **three text box controls** to select all of the controls. On the Ribbon, click the **Arrange tab**. In the **Table group**, click the **Stacked** button to group the controls. Click the **First Name label control** to deselect all of the controls and to surround the label control with a colored border.

a. On the **Design tab**, in the **Themes group**, click the **Themes** button. Right-click the **Couture** theme, and then click **Apply Theme to This Object Only**.

b. Click anywhere in the title *3C Advisor Assignment Form* to select it. On the **Format tab**, in the **Font group**, click the **Font Size button arrow**, and then click **16**. Click the **Bold** button. Click the **Font Color button arrow**, and then under **Theme Colors**, in the last column, click the last color—**Brown, Accent 6, Darker 50%**.

c. On the status bar, click the **Design View** button. Point to the *lower* edge of the **Form Footer section bar** to display the pointer, and then drag downward approximately **0.5 inch**. On the **Design tab**, in the **Controls group**, click the **Label** button. Position the plus sign of the pointer in the **Form Footer** section at **0.25 inch on the horizontal ruler** and even with the lower edge of the Form Footer section bar. Click one time.

d. Using your own name, type **Created by Lastname Firstname** and then press Enter. Click the **Format tab**. With the label control selected, in the **Font group**, click the **Bold** button, and then change the **Font Color** to **Brown, Text 2**—in the fourth column, the first color. Point to a sizing handle to display one of the resize pointers, and then double-click to fit the control to the text you typed.

5 **Save** the form, and then switch to **Layout** view. On the **Design tab**, in the **Tools group**, click the **Add Existing Fields** button. In the **Field List** pane, point to **Student ID#**, and then drag to the left until the pointer is above the *First Name* label control and a thick colored line displays above the control. Release the mouse button to add the Student ID# controls to the form.

a. **Close** the **Field List** pane. Click the **Last Name text box control**, which currently displays *Barthmaier*, to surround it with a border. Point to the right edge of the **text box control** until the pointer displays, and then drag to the left until there is approximately **1"** of space between *Barthmaier* and the right edge of the text box control.

b. On the **Arrange tab**, in the **Rows & Columns** group, click the **Select Row** button. In the **Move group**, click the **Move Up** button one time to move the **Last Name controls** above the **First Name controls**. **Save** the form.

6 Click the **Student ID# text box control**, which displays *1034823*. In the **Rows & Columns group**, click the **Select Column** button to select all four text box controls. On the **Format tab**, in the **Font group**, click the **Background Color button arrow**. Under **Theme Colors**, in the fifth column, click the second color—**Brown, Accent 1, Lighter 80%**.

a. Click the **Student ID# label control**. On the **Arrange tab**, in the **Rows & Columns group**, click the **Select Column** button to select all four label controls. Click the **Format tab**, change the **Font Color**—*not* the Background Color—to **Brown, Text 2**—in the fourth column, the first color. Then apply **Bold**.

(Project 3C Student Advising continues on the next page)

Content-Based Assessments

Skills Review | Project 3C Student Advising (continued)

b. Click the **layout selector** to select all of the controls. Change the **Font Size** to **12**. On the Ribbon, click the **Design tab**, and then in the **Tools group**, click the **Property Sheet** button. In the **Property Sheet**, click the word **Height**, type **0.25** and then press Enter to adjust the height of all of the controls.

c. Click the **Student ID# label control** to select only that label. Click the **Arrange tab**, and then in the **Rows & Columns group**, click the **Select Column** button. In the **Property Sheet**, click **Width**, type **1.5** and then press Enter.

d. In the **Form Footer section**, click the label control with your name. Hold down Shift, and then in the **Form Header section**, in the **label control** that displays *3C Advisor Assignment Form*, click to select both controls. In the **Property Sheet**, change the **Left** property to **0.5** and then press Enter. **Save** the form.

e. **Close** the **Property Sheet**, and then switch to **Form** view. In the navigation area, click the **Last record** button to display the record containing your name. Display **Backstage** view, click the **Print tab**, and then click **Print**. In the **Print** dialog box, under **Print Range**, click the **Selected Record(s)** option button. Create a paper or electronic printout as directed, and then **Close Print Preview**.

7 With the form displayed in **Form** view, click the **First record** button, click the **Faculty Advisor ID label control** to select the text in the text box control. On the **Home tab**, in the **Find group**, click the **Find** button. In the **Find and Replace** dialog box, in the **Find What** box, type **FAC-9119** and then click **Find Next** to find and display the record for *Amanda Bass*. **Close** the **Find and Replace** dialog box. In the **Sort & Filter group**, click the **Selection** button, and then click **Equals "FAC-9119"**. In the navigation area, notice that two students have been assigned to the faculty member with the *FAC-9119* advisor number.

a. In the **Sort & Filter group**, click the **Toggle Filter** button to remove the filter and display all 27 records. **Close** the form, and save changes.

b. **Open** the **Navigation Pane**, open your **3C Student Form** object, and then **Close** the **Navigation Pane**. On the **Home tab**, in the **Sort & Filter group**, click the **Advanced** button, and then click **Filter By Form**. Click in the **Concentration text box control**. At the right edge of the text box control, click the **arrow** that displays. In the list, click Programming. In the **Sort & Filter group**, click the **Toggle Filter** button, and notice that two students have a *Concentration* of *Programming*.

c. In the **Sort & Filter group**, click the **Advanced** button, and then click **Filter By Form**. At the bottom left side of the window, click the **Or tab**. Click the **Concentration text box control arrow**, and then click **Networking**. In the **Sort & Filter group**, click the **Toggle Filter** button. Seven students have a Concentration of *Programming* or *Networking*. In the **Sort & Filter group**, click the **Toggle Filter** button to display all of the records. **Save** and then **Close** the form.

d. **Open** the **Navigation Pane**; be sure all object names display fully. Display **Backstage** view, click **Close Database**, and then click **Exit**. As directed by your instructor, submit your database and the three paper or electronic printouts that are the results of this project.

End **You have completed Project 3C**

Content-Based Assessments

Apply **3B** skills from these Objectives:

- **5** Create a Report by Using the Report Tool
- **6** Create Reports by Using the Blank Report Tool and the Report Wizard
- **7** Modify the Design of a Report
- **8** Print a Report and Keep Data Together

Skills Review | Project 3D Workshop Rooms

In the following Skills Review, you will assist Michelina Cortez, the Director of Workforce Development, in using an Access database to track the details about workshops offered by community members for the public and for students at the Washington Campus of Capital Cities Community College. Your completed reports will look similar to Figure 3.50.

Project Files

For Project 3D, you will need the following file:

a03D_Workshop_Rooms

You will save your database as:

Lastname_Firstname_3D_Workshop_Rooms

Project Results

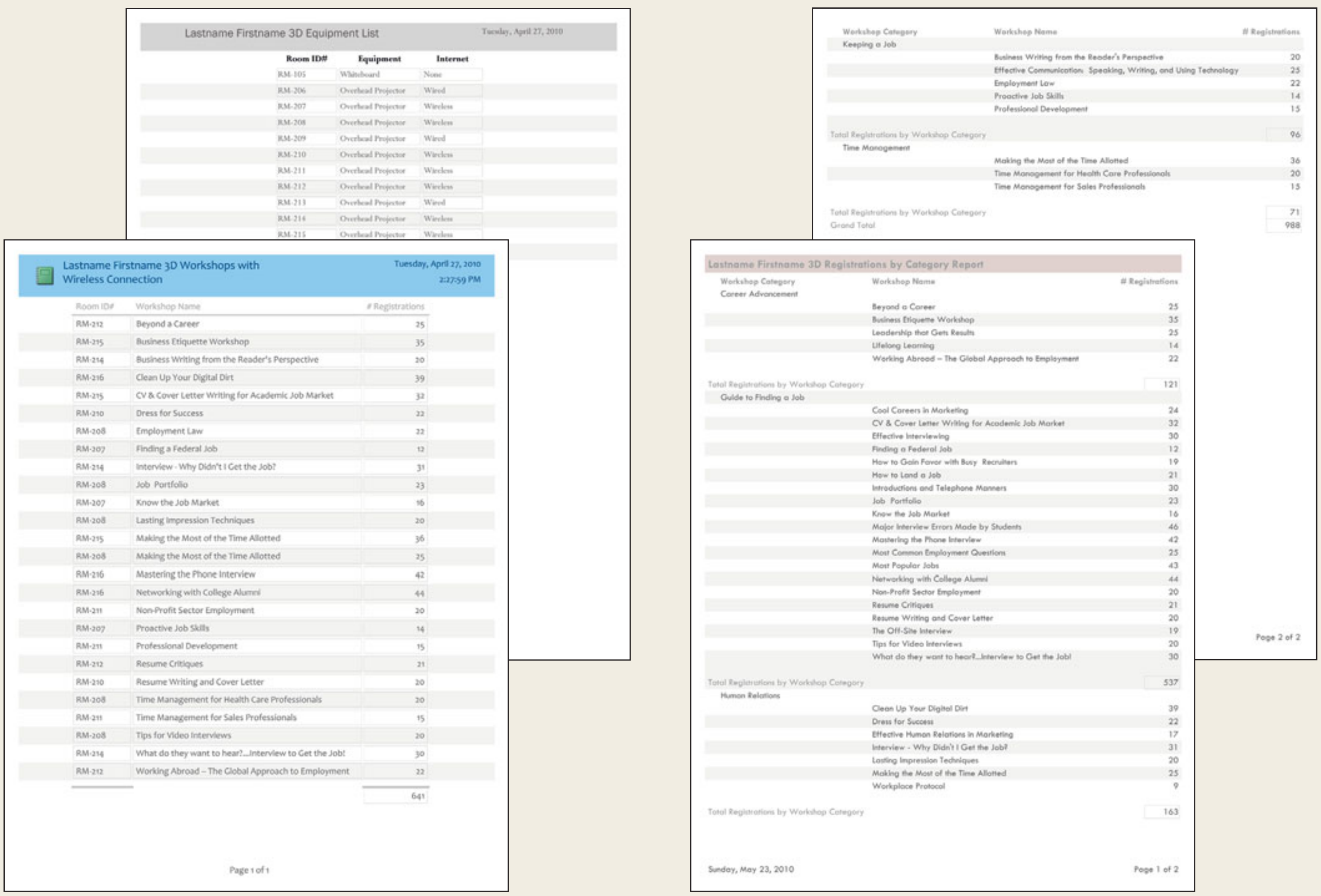


Figure 3.50

(Project 3D Workshop Rooms continues on the next page)

Skills Review | Project **3D** Workshop Rooms (continued)

1 **Start** Access. In **Backstage** view, click **Open**. From your student files, open the **a03D_Workshop_Rooms** database. In **Backstage** view, save the database in your **Access Chapter 3** folder as **Lastname_Firstname_3D_Workshop_Rooms** and then in the **Message Bar**, click the **Enable Content** button. On the Ribbon, click the **Database Tools tab**, and then click the **Relationships** button. If your relationships do not display, in the Relationships group, click the All Relationships button. *One* room is associated with *many* workshops. Thus, a one-to-many relationship has been established between the 3D Rooms table and the 3D Workshops table using Room ID# as the common field. **Close** the **Relationships** window.

- **a.** Open the two tables to examine the data, and then open the query in **Design** view to examine the design grid. This query answers the question *What is the Room ID#, Workshop Name, Workshop Category, and # Registrations for workshops that have wireless Internet connections available?* **Close** all open objects. In the **Navigation Pane**, select the **3D Workshops with Wireless Connection** query. Click the **Create tab**, and then in the **Reports group**, click the **Report** button. **Close** the **Navigation Pane**.
- **b.** On the **Design tab**, in the **Themes group**, click the **Themes** button, right-click the **Waveform** theme, and then click **Apply Theme to This Object Only**.
- **c.** Click the **Workshop Category** field name. Click the **Arrange tab**, and then in the **Rows & Columns group**, click the **Select Column** button. Press Del to remove the field from the report.
- **d.** Click the **Room ID#** field name, and then drag the right edge of the control to the left until there is approximately **0.5** inch of space between the room number and the right edge of the field. Scroll down the report, and then in the **Workshop Name** field—second column—click in the **text box control** that displays *What do they want to hear? . . . Interview to Get the Job!* Drag the right edge of the control to the right until the data in the control displays on one line. With the **Workshop Name** field selected, click the **Home tab**. In the **Sort & Filter group**, click the **Ascending** button.
- **e.** Scroll down to the bottom of the report, and notice that Access counted the number of records in the report—*26* displays under the Room ID# field. Click this **calculated control**, and then press Del. At the top of the report, click the **# Registrations** field name. On the **Design tab**, in the **Grouping & Totals group**, click the **Totals** button, and then click **Sum**. Scroll down to the bottom of the report, and then click the calculated control. Point to the bottom edge of the control to display the pointer, and then double-click to resize the control. The total number of registrations for the workshops that have a wireless connection is *641*.
- **f.** Click the **Page number control**, and then drag the control to the left until the control is visually centered between the left and right margins of the report. At the top of the report, in the **Report Header** section, click the text *3D Workshops with Wireless Connection*. On the **Format tab**, in the **Font group**, change the **Font Size** to **14**, and then click the **label control** again to position the insertion point in the title. Using your own name, add **Lastname Firstname** to the beginning of the title. Click any field in the report. Above and to the left of the **Room ID#** field name, click the **layout selector**, and then drag it down slightly and to the right until the fields are visually centered between the margins of the report. **Save** the report as **Lastname Firstname 3D Workshops with Wireless Connection Report**
- **g.** On the status bar, click the **Print Preview** button. On the **Print Preview tab**, in the **Zoom group**, click the **Two Pages** button, and notice that the report will print on one page. Create a paper or electronic printout as directed, and then **Close Print Preview**.
- **h.** **Close** the report, and then **Open** the **Navigation Pane**. If necessary, increase the width of the **Navigation Pane** to display the entire report name, and then **Close** the **Navigation Pane**.

2 Click the **Create tab**, and then in the **Reports group**, click the **Blank Report** button. If the Field List pane does not display, on the Design tab, in the Tools group, click the Add Existing Fields button. In the **Field List** pane, click **Show all tables**, and then click the **plus sign** (+) next to **3D Rooms**. Point to the **Room ID#** field, right-click, and then click **Add Field to View**. From the **Field List** pane, drag the **Equipment** field into the blank report—anywhere to the right of *Room ID#*. Double-click the **Internet** field to add it as the third field in the report, and then **Close** the **Field List** pane.

- **a.** On the **Design tab**, in the **Themes group**, click the **Themes** button, and then right-click the **Equity** theme. Click **Apply Theme to This Object Only**.

(Project 3D Workshop Rooms continues on the next page)

Content-Based Assessments

Skills Review | Project 3D Workshop Rooms (continued)

Under the **Equipment** field name, click in any **text box control** that displays *Overhead Projector*. Point to the right edge of the control to display the ⟺ pointer, and then drag to the right until the text in the control displays on one line and there is a small amount of space between the text and the next column.

b. On the **Design tab**, in the **Header/Footer group**, click the **Date and Time** button. Clear the **Include Time** check box, and then click **OK**. In the **Header/Footer group**, click the **Title** button. Using your own name, type **Lastname Firstname 3D Equipment List** and then press Enter.

c. With the title still selected, on the **Format tab**, in the **Font group**, change the **Font Size** to **14**. On the right edge of the **label control** for the title, double-click to resize the title's label control.

d. Click the **Room ID#** field name to select it. Hold down Shift, and then click the **Internet** field name to select all three field names. On the **Format tab**, in the **Font group**, click the **Center** button to center the field names over the data in the fields. Change the **Font Color** to **Automatic**, and then apply **Bold**. Click the **layout selector** ⊞, and then drag it down slightly and to the right to visually center the fields between the margins. **Save** the report as **Lastname Firstname 3D Equipment List**

e. On the status bar, click the **Print Preview** button. Create a paper or electronic printout as directed, and then **Close Print Preview**. **Close** the report.

3 Click the **Create tab**, and then in the **Reports group**, click the **Report Wizard** button. Click the **Tables/Queries arrow**, and then click **Table: 3D Workshops**. Double-click the following fields in the order given to move them to the **Selected Fields** list: **Workshop Category**, **Workshop Name**, and **# Registrations**. Click **Next**.

a. With **Workshop Category** selected, click the **One Field** button to group the report by this field, and then click **Next**. Click the **1** box **arrow**, and then click **Workshop Name** to sort the records within each Workshop Category by the Workshop Name. Click the **Summary Options** button. To the right of **# Registrations**, select the **Sum** check box. Under **Show**, be sure that the **Detail and Summary** option button is selected, click **OK**, and then click **Next**.

b. Under **Layout**, be sure that the **Stepped** option button is selected. Under **Orientation**, be sure that **Portrait** is selected, and at the bottom of the **Report Wizard** dialog box, be sure that the **Adjust the field width so all fields fit on a page** check box is selected. Click **Next**, In the **What title do you want for your report?** box, select the existing text, type **Lastname Firstname 3D Registrations by Category Report** and then click **Finish**. **Close Print Preview**, and then on the status bar, click the **Layout View** button.

4 On the **Design tab**, in the **Themes group**, click the **Themes** button, right-click the **Median** theme, and then click **Apply Theme to This Object Only**. Click the title of the report. On the **Format tab**, in the **Font group**, change the **Font Size** to **14**, and then apply **Bold**. Click one of the **Summary for 'Workshop Category' controls**, and then press Del.

a. On the left side of the report, click one of the **Sum label controls**, and then double-click to select the text inside the control. Type **Total Registrations by Workshop Category** and then press Enter.

b. At the top of your report, click the **Workshop Category label control**. Hold down Shift, click the **Workshop Name label control**, and then click the **# Registrations label control** to select all three field names. On the **Format tab**, in the **Font group**, click the **Bold** button.

c. On the status bar, click the **Design View** button. In the **Report Footer section**, click the **Grand Total label control**. Hold down Shift, and in the **Workshop Category Footer section**, click the **Total Registrations by Workshop Category label control** to select both controls. On the **Arrange tab**, in the **Sizing & Ordering group**, click the **Align** button, and then click **Left** to align the left edges of the two controls.

5 On the status bar, click the **Print Preview** button. In the **Zoom group**, click the **Two Pages** button to view how your report is currently laid out. Notice that at the bottom of Page 1 and the top of Page 2, the records in the **Keeping a Job** category are split between the two pages. Click **Close Print Preview**. On the status bar, click the **Layout View** button.

(Project 3D Workshop Rooms continues on the next page)

Content-Based Assessments

Skills Review | Project 3D Workshop Rooms (continued)

a. On the **Design tab**, in the **Grouping & Totals group**, click the **Group & Sort** button. In the **Group, Sort, and Total** pane, on the **Group on Workshop Category bar**, click **More**. Click the **do not keep group together on one page arrow**, and then click **keep whole group together on one page**. On the **Design tab**, in the **Grouping & Totals group**, click the **Group & Sort** button to close the **Group, Sort, and Total** pane. **Save** the report.

b. On the status bar, click the **Print Preview** button. Notice that the entire **Workshop Category** grouping of **Keeping a Job** displays together at the top of Page 2. Create a paper or electronic printout as directed, and then **Close Print Preview**. **Save**, and then **Close** the report. **Open** the **Navigation Pane**, and if necessary, increase the width of the Navigation Pane so that all object names display fully. In **Backstage** view, click **Close Database**, and then click **Exit**. As directed by your instructor, submit your database and the three paper or electronic printouts that are the results of this project.

End **You have completed Project 3D**

Content-Based Assessments

Apply 3A skills from these Objectives:

1. Create and Use a Form to Add and Delete Records
2. Create a Form by Using the Form Wizard
3. Modify a Form in Layout View and in Design View
4. Filter Records

Mastering Access | Project 3E Raffle Sponsors

In the following Mastering Access project, you will assist Alina Ngo, Dean of Student Services at the Central Campus of Capital Cities Community College, in using her database to track raffle items and sponsors for the New Student Orientation sessions. Your completed forms will look similar to Figure 3.51.

Project Files

For Project 3E, you will need the following file:

a03E_Raffle_Sponsors

You will save your database as:

Lastname_Firstname_3E_Raffle_Sponsors

Project Results

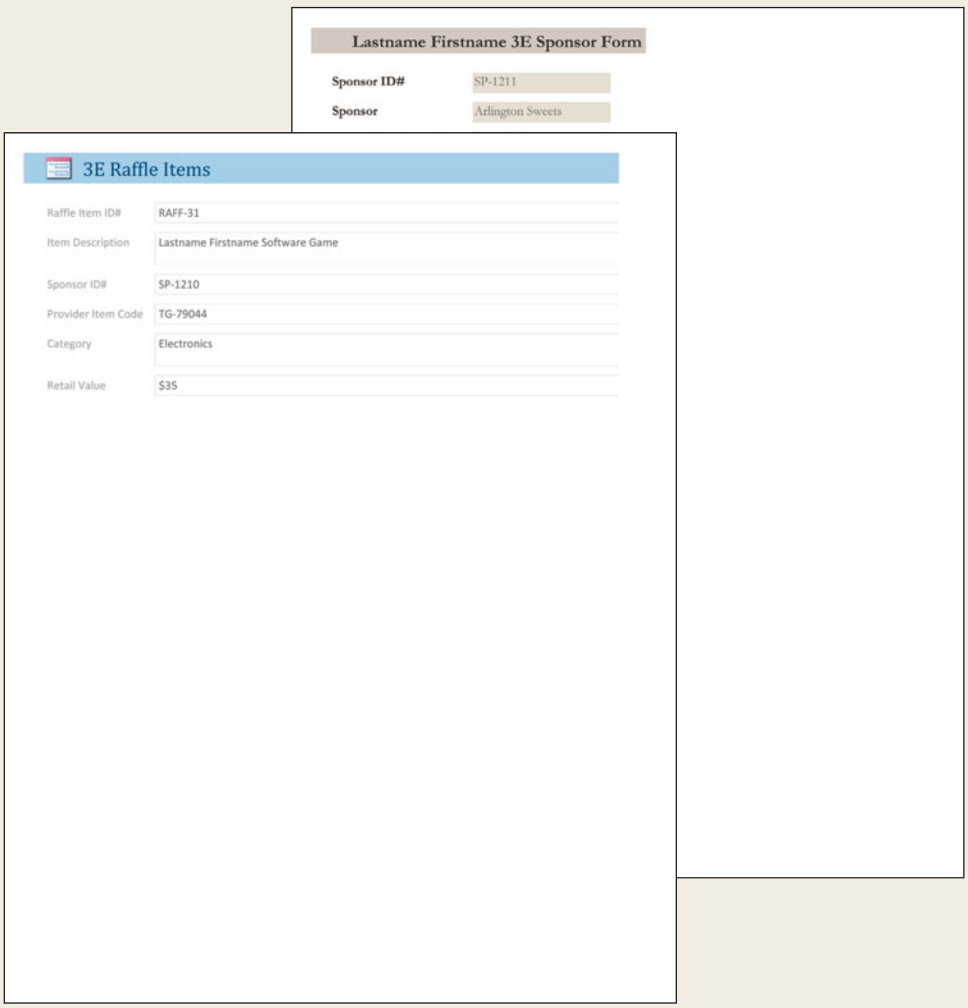


Figure 3.51

(Project 3E Raffle Sponsors continues on the next page)

Content-Based Assessments

Mastering Access | Project 3E Raffle Sponsors (continued)

1 **Start** Access. From your student data files, **Open** the **a03E_Raffle_Sponsors** database. Save the database in your **Access Chapter 3** folder as **Lastname_Firstname_3E_Raffle_Sponsors** and then enable the content. View the relationship between the 3E Sponsors table and the 3E Raffle Items table. *One* sponsor can provide *many* raffle items for the New Student Orientation sessions.

2 Based on the **3E Raffle Items** table, use the **Form** tool to create a form. **Save** the form as **Lastname Firstname 3E Raffle Item Form** and then switch to **Form** view. Add the new record as shown in **Table 1**, using your own name in the **Item Description** field.

3 Display the first record, and, if necessary, click in the Raffle Item ID# field. Use the **Find** button to display the record for the **Raffle Item ID#** of **RAFF-06**, and then **Delete** the record. Display the record you entered for **RAFF-31**, and then **Print** the **Selected Record**, changing the column width to **7.5"** or create an electronic printout. **Close** the form, saving changes if prompted.

4 Based on the **3E Sponsors** table, use the **Form Wizard** tool to create a form. Include the following fields in the order given: **Sponsor**, **Contact Last Name**, **Contact First Name**, and **Phone Number**. Use a **Columnar** layout, and as the title type **Lastname Firstname 3E Sponsor Form**

5 In **Layout** view, apply the **Stacked** layout to all of the controls, and then apply the **Couture** theme to this object only. For the title of the form, change the **Font Size** to **16**, apply **Bold**, and change the **Font Color** to **Brown**, **Accent 6**, **Darker 50%**. In **Design** view, increase the height of the **Form Footer** section to approximately **0.5 inch**. In the **Form Footer** section and using your own name, add a **label control** that displays **Created by Lastname Firstname** For the **label control**, change the **Font Color** to **Brown, Text 2**, apply **Bold**, and then adjust the control to fit the text in the control.

6 **Save** the form, and then switch to **Layout** view. Display the **Field List** pane, and then add the **Sponsor ID#** field to the form above the **Sponsor** field. **Close** the **Field List** pane, and then move the **Contact First Name** controls directly above the **Contact Last Name** controls. Display **Record 5**—this record's Sponsor name is the longest entry of all records. Decrease the width of the **Sponsor text box control** until there is approximately **1 inch** between *Inc* and the right edge of the control. **Save** the form.

7 Select all five **text box controls**, set the **Background Color** to **Brown, Accent 1, Lighter 80%**. Select all of the **label controls**, set the **Font Color** to **Brown, Text 2**, and then apply **Bold**. With the controls selected, display the **Property Sheet**. For the **label controls**, set the **Width** to **1.75** Select all of the **label controls** and **text box controls**, set the **Font Size** to **12**, and the **Height** property to **0.25** In the **Form Header** and **Form Footer** sections, select the **label controls** with the title and your name. Set the **Left** property to **0.5**

8 **Close** the **Property Sheet**, **Save** the form, and then switch to **Form** view. Using your first name and last name, add the record as shown in **Table 2**, being sure to use the Tab key to move among fields and to save the record.

9 Display the record you just added and then **Print** the **Selected Record**, or create an electronic printout as directed. **Close** the form.

10 Open your **3E Raffle Item Form** object. Using the **Advanced Filter/Sort** tool, create a filter that displays eight records with a **Category** of **Clothing** or **Dining** After verifying that eight records display, use the **Toggle Filter** button to display all 30 records. **Save** the form.

11 **Close** all open objects. **Open** the **Navigation Pane**, and, if necessary, increase the width of the **Navigation Pane** to display fully all of the object names. Display **Backstage** view. Click **Close Database**, and then click **Exit**. As directed by your instructor, submit your database and the two paper or electronic printouts that are the results of this project.

Table 1

Raffle Item ID#	Item Description	Sponsor ID#	Provider Item Code	Category	Retail Value
RAFF-31	**Lastname Firstname Software Game**	**SP-1210**	**TG-79044**	**Electronics**	**35**

(Return to Step 3)

Table 2

Sponsor ID#	Sponsor	Contact First Name	Contact Last Name	Phone Number
SP-1211	**Arlington Sweets**	**Firstname**	**Lastname**	**(703) 555-5355**

(Return to Step 9)

End **You have completed Project 3E**

Content-Based Assessments

Apply **3B** skills from these Objectives:

- **5** Create a Report by Using the Report Tool
- **6** Create Reports by Using the Blank Report Tool and the Report Wizard
- **7** Modify the Design of a Report
- **8** Print a Report and Keep Data Together

Mastering Access | Project 3F Contractor Services

In the following Mastering Access project, you will assist Roger Lockheart, Director of Facilities at the Jefferson Campus of Capital Cities Community College, in using a database to track facility and contractor services for an open house for prospective college students. Your completed reports will look similar to Figure 3.52.

Project Files

For Project 3F, you will need the following file:

a03F_Contractor_Services

You will save your database as:

Lastname_Firstname_3F_Contractor_Services

Project Results

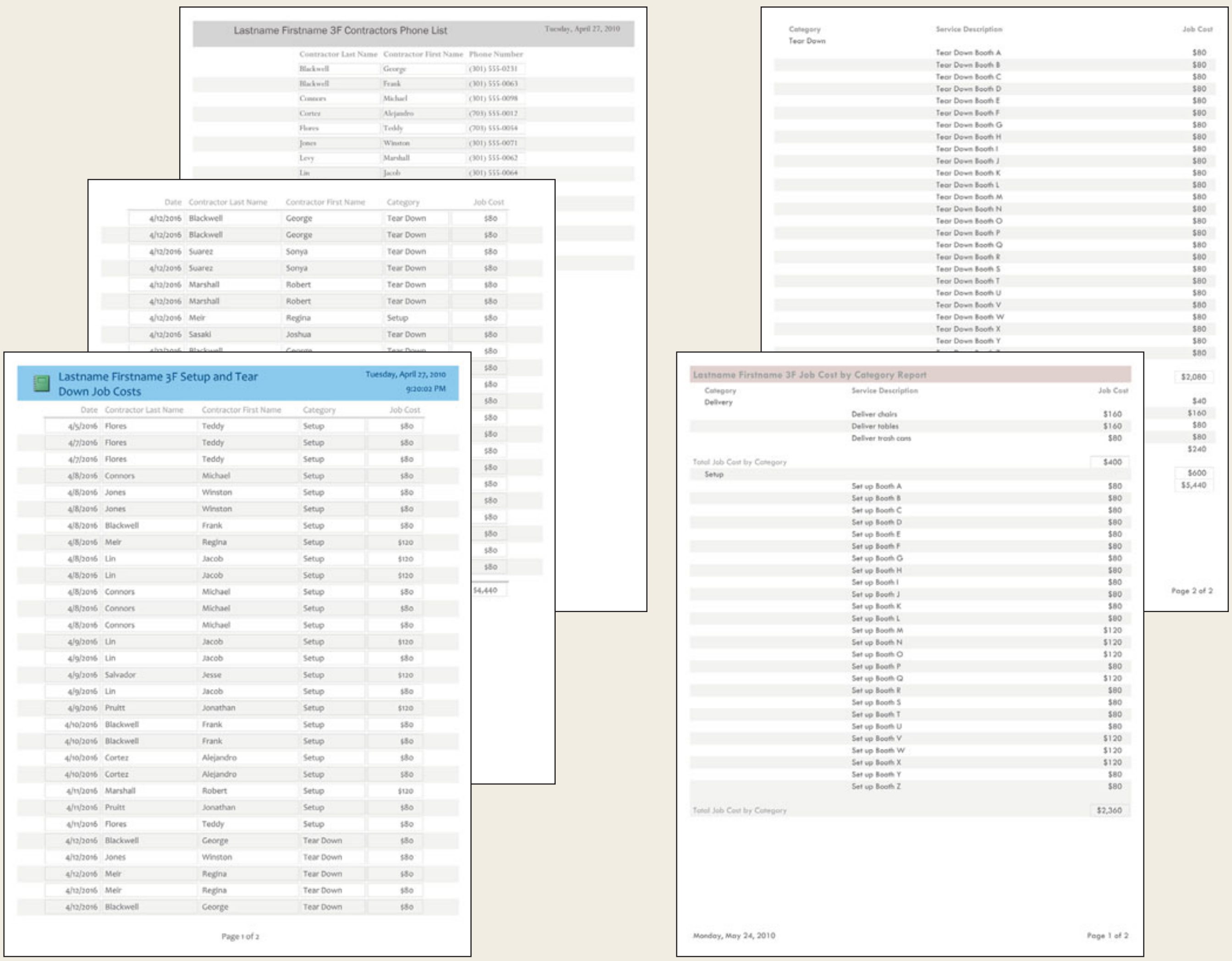


Figure 3.52

(Project 3F Contractor Services continues on the next page)

Content-Based Assessments

Mastering Access | Project **3F** Contractor Services (continued)

1 **Start** Access. From your student files, **Open** the **a03F_Contractor_Services** database. Save the database in your **Access Chapter 3** folder as **Lastname_Firstname_3F_Contractor_Services** and then enable the content. View the relationship between the 3F Contractors table and the 3F Facility Services table. *One* contractor can provide *many* facility services. **Close** the **Relationships** window. Based on the **3F Setup and Tear Down Job Costs** query, use the **Report** tool to create a report, and then **Close** the **Navigation Pane**. This query answers the question *What is the Date, Job ID, Contractor ID, Contractor Last Name, Contractor First Name, Category, and Job Cost of setup and tear down jobs?*

2 Apply the **Waveform** theme to this object only. **Delete** the **Job ID** and **Contractor ID** fields from the report. Decrease the widths of the **Contractor Last Name**, **Contractor First Name**, and **Category** fields until there is approximately **0.25 to 0.5 inch** of space between the longest entry in each field—including the field name—and the right edge of each control. Be sure that there is enough space for *Tear Down* to display on one line. **Sort** the **Date** field in ascending order.

Scroll down to the bottom of the report, and increase the height of the **calculated control** that displays *$4,440*. Drag the **page number control** to the left to visually center it between the margins of the report. For the title, change the **Font Size** to **16**, and then using your last name and first name, add **Lastname Firstname** to the beginning of the title. Using the **layout selector** ⊞, visually center the fields between the left and right margins. **Save** the report as **Lastname Firstname 3F Setup and Tear Down Job Costs Report** and then create a paper or electronic printout as directed—two pages will print. **Close** the report. **Open** the **Navigation Pane**, and increase the width of the **Navigation Pane** to display the entire report name. **Close** the **Navigation Pane**.

3 Use the **Blank Report** tool to create a report based on the **3F Contractors** table. Add the fields to the report in the order given: **Contractor Last Name**, **Contractor First Name**, and **Phone Number**. **Close** the **Field List** pane. Apply the **Equity** theme to this object only. Increase the width of the **Contractor Last Name** field so that the field name displays fully. Add the **Date** to the Report Header section—do not include the time. Add a **Title** of **Lastname Firstname 3F Contractors Phone List** to the report, and change the **Font Size** to **14**. Decrease the width of the **title's label control** to fit the text and to move the date control to the left within the right margin. Apply **Bold** to the three field names. **Sort** the **Contractor Last Name** field in **Ascending** order. Using the **layout selector** ⊞, visually center the fields between the report margins. **Save** the report as **Lastname Firstname 3F Contractors Phone List** and then create a paper or electronic printout as directed. **Close Print Preview**, and then **Close** the report.

4 Use the **Report Wizard** to create a report based on the **3F Facility Services** table. Select the following fields in the order given: **Category**, **Service Description**, and **Job Cost**. **Group** the report by **Category**, **Sort** by **Service Description**, and **Sum** the **Job Cost** field. Select the **Stepped** layout and **Portrait** orientation. For the report title, type **Lastname Firstname 3F Job Cost by Category Report** and then switch to **Layout** view.

5 Apply the **Median** theme to this object only. For the title, change the **Font Size** to **14**, and apply **Bold**. **Delete** the **Summary for 'Category' controls**. Scroll down to the bottom of the report, and click the **text box control** that displays *Wireless network for laptop lane*. Decrease the width of the control until there is approximately **0.25 inch** of space between the end of the word *lane* and the right edge of the label control. At the bottom of the report, for the last record *Wireless network for laptop lane*, to the right, click the **text box control** that displays #—the number or pound sign displays because the text box control is not wide enough to display the entire value. Hold down Shift, and immediately below the selected control, click the **Sum calculated control**, and then under that, click the **Grand Total calculated control**. Drag the left edge of the three selected controls to the left approximately **0.5 inch** to display the amounts fully. **Save** the report.

6 Change the text in the **Sum label control** to **Total Job Cost by Category** and then at the top of the report, select the three **field names**, and apply **Bold**. **Save** the report.

7 Switch to **Design** view. Click the **label control** that displays *Total Job Cost by Category*, and then align the left edge of the control with the left edge of the **label control** that displays *Grand Total*. **Save** the report.

8 Display the report in **Print Preview** in the **Two Pages** arrangement, examine how the groupings break across pages, **Close Print Preview**, and then switch to **Layout** view. Display the **Group, Sort, and Total** pane, and then select **keep whole group together on one page**. Close the

(Project 3F Contractor Services continues on the next page)

Mastering Access | Project **3F** Contractor Services (continued)

Group, **Sort, and Total** pane. Display the report in **Print Preview** in the **Two Pages** arrangement, and then notice that the entire **Tear Down** grouping displays on Page 2. **Save** the report.

9 Create a paper or electronic printout as directed, **Close Print Preview**, and then **Close** the report. **Open** the **Navigation Pane**, and then display **Backstage** view. Click **Close Database**, and then click **Exit**. As directed by your instructor, submit your database and the three paper or electronic printouts that are the results of this project.

End **You have completed Project 3F**

Content-Based Assessments

Apply **3A** and **3B** skills from these Objectives:

1. Create and Use a Form to Add and Delete Records
2. Create a Form by Using the Form Wizard
3. Modify a Form in Layout View and in Design View
4. Filter Records
5. Create a Report by Using the Report Tool
6. Create Reports by Using the Blank Report Tool and the Report Wizard
7. Modify the Design of a Report
8. Print a Report and Keep Data Together

Mastering Access | Project 3G Career Books

In the following Mastering Access project, you will assist Teresa Johnson, Head Librarian at the Capital Campus of Capital Cities Community College, in using a database to track publishers and book titles to assist students in finding employment. Your completed forms and reports will look similar to Figure 3.53.

Project Files

For Project 3G, you will need the following file:

a03G_Career_Books

You will save your database as:

Lastname_Firstname_3G_Career_Books

Project Results

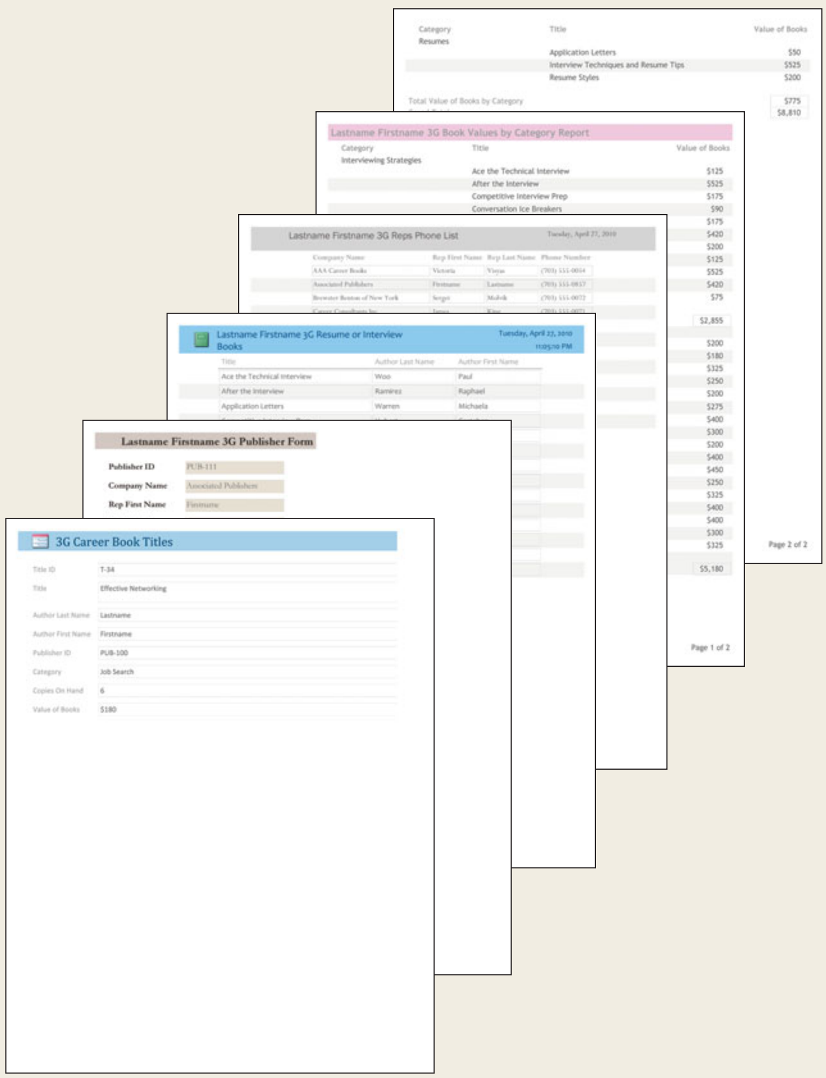


Figure 3.53

(Project 3G Career Books continues on the next page)

Content-Based Assessments

Mastering Access | Project 3G Career Books (continued)

1 **Start** Access. From your student files, open the **a03G_Career_Books** database. **Save** the database in your **Access Chapter 3** folder as **Lastname_Firstname_3G_Career_Books** and then enable the content. Review the relationship between the 3G Publishers table and the 3G Career Book Titles table. *One* publisher can publish *many* books.

2 Based on the **3G Career Book Titles** table, use the **Form** tool to create a form. Switch to **Form** view, and then using your own name, add the record as shown in **Table 1**.

3 **Save** the form as **Lastname Firstname 3G Career Book Form** and then display the first record. Use the **Find** button to display the record for the **Title ID** of **T-18**, and then **Delete** the record. Display the record you entered for **T-34**, and then **Print** the **Selected Record**, changing the column width to **7.5"** or create an electronic printout. **Close** the form, saving changes if prompted.

4 Use the **Form Wizard** to create a form based on the **3G Publishers** table. Include the following fields: **Company Name**, **Rep Last Name**, **Rep First Name**, **Job Title**, and **Phone Number**. Use a **Columnar** layout, and as the title, type **Lastname Firstname 3G Publisher Form**

5 In **Layout** view, select all of the controls, and then apply the **Stacked** layout. Apply the **Couture** theme to this object only. For the title, change the **Font Size** to **16**, apply **Bold**, and change the **Font Color** to **Brown, Accent 6, Darker 50%**—in the last column, the last color. In **Design** view, increase the height of the **Form Footer** section approximately **0.5 inch**. In the **Form Footer** section, add a **label control** that displays **Created by Lastname Firstname** and then change the **Font Color** to **Brown, Text 2**—in the fourth column, the first color. Apply **Bold**, and then adjust the control to fit the data in the control. **Save** the form.

6 In **Layout** view, display the **Field List** pane, and then add the **Publisher ID** field to the form above the **Company Name** field. **Close** the **Field List** pane. Move the **Rep First Name** field directly above the **Rep Last Name** field. Click the **Job Title text box control**, and then drag the right edge of the control to the left until there is approximately **1 inch** of space between *Representative* and the right edge of the control. **Save** the form.

7 Select all of the **text box controls**, set the **Background Color** to **Brown, Accent 1, Lighter 80%**—in the fifth column, the second color. Select all of the **label controls**. Set the **Font Color** to **Brown, Text 2**, apply **Bold**, and then set the **Width** property to **1.5** Select all of the **label controls** and **text box controls**, set the **Font Size** to **12**, and then set the **Height** property to **0.25** For the **form header label control** and the **form footer label control**, set the **Left** property to **0.5**

8 **Close** the **Property Sheet**, **Save** the form, and switch to **Form** view. Using your own name, add a new record as shown in **Table 2**.

9 Display the record you just added and then **Print** the **Selected Record** or create an electronic printout as directed. **Close** the form.

10 **Open** your **3G Career Book Form** object. Using the **Filter By Form** tool, filter the records to display the **Category** of **Resumes** or **Job Search**. Twenty books meet the criteria. Click the **Toggle Filter** button to display all 31 records. **Save** the form, and then **Close** the form.

11 Use the **Report** tool to create a report based on the **3G Resume or Interview Books** query. Apply the **Waveform** theme to this object only. **Delete** the **Publisher ID**, **Category**, and **Company Name** fields from the report.

Table 1

Title ID	Title	Author Last Name	Author First Name	Publisher ID	Category	Copies On Hand	Value of Books
T-34	**Effective Networking**	**Lastname**	**Firstname**	**PUB-100**	**Job Search**	**6**	**180**

(Return to Step 3)

Table 2

Publisher ID	Company Name	Rep First Name	Rep Last Name	Job Title	Phone Number
PUB-111	**Associated Publishers**	**Firstname**	**Lastname**	**Sales Associate**	**(703) 555-0857**

(Return to Step 9)

(Project 3G Career Books continues on the next page)

Content-Based Assessments

Mastering Access | Project 3G Career Books (continued)

Decrease the widths of the **Author Last Name** and **Author First Name** fields so that there is approximately **0.5 inch** between the word *Name* in the field name and the right edge of the label controls. Increase the width of the **Title** field until each title displays on one line. **Sort** the **Title** field in **Ascending** order.

Click the **Title** field name, and then on the **Design tab**, click the **Totals** button. Add a control that counts the number of records, and then increase the height of the control so that *14* displays fully in the calculated control. Drag the **page number control** to the left to visually center it between the report margins. For the title of the report, change the **Font Size** to **14**, and then using your own name, add **Lastname Firstname** to the beginning of the title. Using the **layout selector**, visually center the fields between the left and right margins. **Save** the report as **Lastname Firstname 3G Resume or Interview Books Report** and then create a paper or electronic printout as directed. **Close** the report.

12 Use the **Blank Report** tool to create a report based on the **3G Publishers** table. Add the following fields to the report in the order listed: **Company Name**, **Rep First Name**, **Rep Last Name**, and **Phone Number**. **Close** the **Field List** pane, and then apply the **Equity** theme to this object only. Increase the width of the **Company Name** field so that the text in each record displays on one line. Add the **Date** to the report, add a **Title** of **Lastname Firstname 3G Reps Phone List** For the title, change the **Font Size** to **14**, and then adjust the width of the title's label control, being sure that the date displays within the right margin of the report. Apply **Bold** to all of the field names, and then **Center** the field names over the data. **Sort** the **Company Name** field in **Ascending** order. Using the **layout selector**, visually center the fields between the left and right margins. **Save** the report as **Lastname Firstname 3G Reps Phone List** and then create a paper or electronic printout as directed. **Close** the report.

13 Use the **Report Wizard** to create a report based on the **3G Career Book Titles** table, Select the following fields: **Category**, **Title**, and **Value of Books**. **Group** the report by **Category**, **Sort** by **Title**, and **Sum** the **Value of Books** field. Select the **Stepped** layout, and **Portrait** orientation as the report title, type **Lastname Firstname 3G Book Values by Category Report** and then switch to **Layout** view.

14 Apply the **Opulent Theme** to this object only. For the title of the report, change the **Font Size** to **14** and then apply **Bold**. **Delete** the **Summary for 'Category' controls**. Scroll down to the bottom of the report, and in the **Title** field, click the **text box control** that displays *Interview Techniques and Resume Tips*, which is the longest entry in the field. Point to the right edge of the **text box control**, and then drag the pointer to the left until there is approximately **0.25 inch** between *Tips* and the right edge of the text box control. Scroll to the top of the report, and then click in the **Value of Books label control**. Double-click the left edge of the **label control** to increase the width of the label control and to display fully the text in the label control. **Save** the report.

15 Scroll down to the bottom of the report, and then on the right side of the report, increase the width of the **Sum calculated controls** and the **Grand Total calculated control** so that the entire figure, including the dollar sign, displays—the Grand Total is *$8,810*. Change the text in the **Sum label controls** to **Total Value of Books by Category** and then increase the width of the **Grand Total label control** to display fully the text in the control. **Save** the report.

16 At the top of the report, apply **Bold** to the three field names. Select any of the **Title text box controls**. Display the **Property Sheet**, set the **Height to 0.25**. **Close** the **Property Sheet**. In **Design** view, align the left edge of the **label control** that displays *Total Value of Books by Category* with the left edge of the **label control** that displays *Grand Total*. **Save** the report.

17 Display the report in **Print Preview** in the **Two Pages** arrangement, examine how the groupings break across pages, and then **Close Print Preview**. In **Layout** view, display the **Group, Sort, and Total** pane, and then click **keep whole group together on one page**. Close the **Group, Sort, and Total** pane. **Save** the report. Display the report in **Print Preview** in the **Two Pages** arrangement, and then notice that the entire **Resumes** grouping displays on Page 2. Create a paper or electronic printout as directed, and then **Close Print Preview**.

18 **Close** the report, and then **Open** the **Navigation Pane**. If necessary, increase the width of the Navigation Pane to display all of the object names fully. In **Backstage** view, click **Close Database**, and then click **Exit**. As directed by your instructor, submit your database and the five paper or electronic printouts that are the results of this project.

End **You have completed Project 3G**

Access | Chapter 3

Apply a combination of the **3A** and **3B** skills.

GO! Fix It | Project 3H Resume Workshops

Project Files

For Project 3H, you will need the following file:

a03H_Resume_Workshops

You will save your database as:

Lastname_Firstname_3H_Resume_Workshops

In this project, you will make corrections to and update an Access database that stores information about resume workshops that are scheduled for students. Start Access, navigate to the student files that accompany this textbook, and then open the a03H_Resume_Workshops database. Save the database in your Access Chapter 3 folder as **Lastname_Firstname_3H_Resume_Workshops** and enable the content.

To complete the project, you should know that:

- In the Participant Form object, all the field heights should be the same, and your name and 3H should display in the title. Create a filter that finds records where the Workshop Fee is $35—five records meet the criteria. Toggle the filter off, and then save the form. In the first record, enter your first name and last name in the appropriate fields. Then, as directed, create a paper or electronic printout of only this record.
- In the Resume Workshop Form object, in the header, change Lastname Firstname to your own last name and first name. Add a label control to the Form Footer section. Using your own name, type **Created by Lastname Firstname** and then bold the text. Save the form. Find the record for Workshop ID# R-002, and then, as directed, create a paper or electronic printout of only this record.
- In the Participant Input Form object, you should adjust the height and width of the controls so that the text in the controls displays on one line. The font sizes for the label controls and text box controls should match. Add your name and 3H to the title, and be sure that the title displays on one line. For the title, change the font size so that the title does not extend to the right of the text box controls beneath it. In the Form Footer section, create a label typing **Created by Lastname Firstname** and then bold the text in the label. Add a light blue background color to the text box controls, and then save the form. Display the record with your name and then, as directed, create a paper or electronic printout of only this record.
- For the Participant Fees Report, apply the Opulent theme to this object only. Add a title to the report that includes your name and 3H. Adjust the font size and the width of the label control, and be sure that the date control displays within the right margin of the report. Center the data in the Workshop ID text box controls. Center the layout between the margins, and add a total for the Workshop Fee column that sums the fees. Sort the Date Fee Received field in ascending order. Save the report, and then create a paper or electronic printout as directed.
- In the Participants by Workshop Name report, apply the Equity theme to this object only. Add your name and 3H to the title, and reduce the Font Size. Adjust controls so that all of the data displays fully. Delete the Summary for 'Workshop ID#' control. Change the text in the Sum label controls so that they reflect what is being summed. Align the left edges of the Sum and Grand Total label controls. Add the date to the Report Header section. Be sure that the groupings are kept together when printed. Create a paper or electronic printout as directed.

End **You have completed Project 3H**

Content-Based Assessments

Apply a combination of the **3A** and **3B** skills.

GO! Make It | Project 3I Study Abroad

Project Files

For Project 3I, you will need the following file:

a03I_Study_Abroad

You will save your database as:

Lastname_Firstname_3I_Study_Abroad

From the student files that accompany this textbook, open the a03I_Study_Abroad database, and then save the database in your Access Chapter 3 folder as **Lastname_Firstname_3I_Study_Abroad** Using the Blank Report tool, create the report shown in Figure 3.54. Apply the Slipstream theme, and then create a paper or electronic printout as directed.

Project Results

Lastname Firstname 3I Trip Dates and Cost Report

Destination	Cost of Trip	Departure Date	Return Date
Costa Rica	$3,000	2/15/2016	2/25/2016
Egypt	$4,300	2/16/2016	2/26/2016
Great Britain	$6,000	3/22/2016	4/4/2016
Greece	$6,000	5/5/2016	5/15/2016
Ireland	$5,000	5/23/2016	6/2/2016
Italy	$4,500	5/1/2016	5/8/2016
Mexico	$2,000	2/8/2016	2/18/2016
Panama	$2,900	4/30/2016	5/5/2016
Paris	$7,580	5/6/2016	5/17/2016
Rome	$7,250	5/2/2016	5/12/2016
Singapore	$5,000	4/12/2016	4/20/2016
South Africa	$4,780	3/3/2016	3/10/2016
Switzerland	$5,400	2/25/2016	3/3/2016
Tokyo	$4,950	3/4/2016	3/12/2016
Tuscan Valley	$5,600	2/4/2016	2/14/2016

Figure 3.54

End **You have completed Project 3I**

Apply a combination of the **3A** and **3B** skills.

GO! Solve It | Project 3J Job Offers

Project Files

For Project 3J, you will need the following file:

a03J_Job_Offers

You will save your database as:

Lastname_Firstname_3J_Job_Offers

From the student files that accompany this textbook, open the a03J_Job_Offers database file, save the database in your Access Chapter 3 folder as **Lastname_Firstname_3J_Job_Offers** and then enable the content.

Kevin Bodine, coordinator of the Student Employment Office, would like one form and two reports created from the Job Offers database. Using the skills you have practiced in this chapter, create an attractive form that can be used to update student candidate records. Using your own information, add a new record as Student ID# **9091246** with a College Major of **Business** and a Phone Number of **(703) 555-9876** Leave the Internship Completed field blank. Save the form as **Lastname Firstname 3J Candidate Update Form** and then create a paper or electronic printout of only your record.

Mr. Bodine wants an attractive report listing the Organization Name and the Offer Amount of each job offered to a student, grouped by the Student ID#, sorted in ascending order by the Organization Name. The Offer Amount field should display the maximum amount offered. Create and save the report as **Lastname Firstname 3J Job Offers by Student ID# Report** and then create a paper or electronic printout as directed.

Mr. Bodine also wants an attractive report of the names, college majors, and phone numbers of the student candidates, grouped by college majors and then sorted by the Last Name field. Save the report as **Lastname Firstname 3J Student Candidates by Major Report** and then create a paper or electronic printout as directed.

	Performance Level		
Performance Criteria	Exemplary You consistently applied the relevant skills	Proficient You sometimes, but not always, applied the relevant skills	Developing You rarely or never applied the relevant skills
Create 3J Candidate Update Form	Form created with correct fields in easy-to-follow format and record entered for student.	Form created with no more than two missing elements.	Form created with more than two missing elements.
Create 3J Job Offers by Student ID# Report	Report created with correct fields, grouped and sorted correctly, and in an attractive format.	Report created with no more than two missing elements.	Report created with more than two missing elements.
Create 3J Student Candidates by Major Report	Report created with correct fields, grouped and sorted correctly, and in an attractive format.	Report created with no more than two missing elements.	Report created with more than two missing elements.

End **You have completed Project 3J**

Apply a combination of the 3A and 3B skills.

GO! Solve It | Project 3K Financial Aid

Project Files

For Project 3K, you will need the following file:

a03K_Financial_Aid

You will save your database as:

Lastname_Firstname_3K_Financial_Aid

From the student files that accompany this textbook, open the a03K_Financial_Aid database file, and then save the database in your Access Chapter 3 folder as **Lastname_Firstname_3K_Financial_Aid**

Marguerite Simons, the Financial Aid Director, wants an attractive, easy-to-follow form that can be used to update the Financial Aid Students table. Using your first name and last name, add a new record with the following information:

Student ID#	Financial Aid ID	Home Phone#	College E-mail
1472589	**FA-07**	**(703) 555-3874**	**ns589@capccc.edu**

Save the form as **Lastname Firstname 3K FA Student Update Form** and then create a paper or electronic printout of only your record.

Ms. Simons also wants an attractively formatted report listing the Award Name, the Student ID# and the Award Amount for financial aid offered to students, grouped by the Award name and sorted in ascending order by the Student ID# field (Hint: Use data from both tables). The Award Amount should be summed. Save the report as **Lastname Firstname 3K Amount by Award Name Report** and then create a paper or electronic printout of the report.

		Performance Level		
		Exemplary You consistently applied the relevant skills	**Proficient** You sometimes, but not always, applied the relevant skills	**Developing** You rarely or never applied the relevant skills
Performance Criteria	Create 3K FA Student Update Form	Form created with correct fields in easy-to-follow format and record entered for student.	Form created with no more than two missing elements.	Form created with more than two missing elements.
	Create 3K Amount by Award Name Report	Report created with correct fields, grouped and sorted correctly, and in an attractive format.	Report created with no more than two missing elements.	Report created with more than two missing elements.

End You have completed Project 3K

Outcomes-Based Assessments

Rubric

The following outcomes-based assessments are *open-ended assessments*. That is, there is no specific correct result; your result will depend on your approach to the information provided. Make *Professional Quality* your goal. Use the following scoring rubric to guide you in *how* to approach the problem, and then to evaluate *how well* your approach solves the problem.

The *criteria*—Software Mastery, Content, Format and Layout, and Process—represent the knowledge and skills you have gained that you can apply to solving the problem. The *levels of performance*—Professional Quality, Approaching Professional Quality, or Needs Quality Improvements—help you and your instructor evaluate your result.

	Your completed project is of Professional Quality if you:	**Your completed project is Approaching Professional Quality if you:**	**Your completed project Needs Quality Improvements if you:**
1-Software Mastery	Choose and apply the most appropriate skills, tools, and features and identify efficient methods to solve the problem.	Choose and apply some appropriate skills, tools, and features, but not in the most efficient manner.	Choose inappropriate skills, tools, or features, or are inefficient in solving the problem.
2-Content	Construct a solution that is clear and well organized, contains content that is accurate, appropriate to the audience and purpose, and is complete. Provide a solution that contains no errors in spelling, grammar, or style.	Construct a solution in which some components are unclear, poorly organized, inconsistent, or incomplete. Misjudge the needs of the audience. Have some errors in spelling, grammar, or style, but the errors do not detract from comprehension.	Construct a solution that is unclear, incomplete, or poorly organized; contains some inaccurate or inappropriate content; and contains many errors in spelling, grammar, or style. Do not solve the problem.
3-Format and Layout	Format and arrange all elements to communicate information and ideas, clarify function, illustrate relationships, and indicate relative importance.	Apply appropriate format and layout features to some elements, but not others. Overuse features, causing minor distraction.	Apply format and layout that does not communicate information or ideas clearly. Do not use format and layout features to clarify function, illustrate relationships, or indicate relative importance. Use available features excessively, causing distraction.
4-Process	Use an organized approach that integrates planning, development, self-assessment, revision, and reflection.	Demonstrate an organized approach in some areas, but not others; or, use an insufficient process of organization throughout.	Do not use an organized approach to solve the problem.

Outcomes-Based Assessments

Apply a combination of the 3A and 3B skills.

GO! Think | Project 3L Food Services

Project Files

For Project 3L, you will need the following file:

a03L_Food_Services

You will save your database as:

Lastname_Firstname_3L_Food_Services

Use the skills you have practiced in this chapter to assist Luciano Perez, the Hospitality Director, in creating a form and a report to assist him with the staff scheduling of food services for a two-day student orientation workshop. Create an attractive form that he can use to update the 3L Staff table saving the form as **Lastname Firstname 3L Staff Update Form** Using your own name, add a new record with the following information:

Staff ID: **STAFF-1119** Phone Number: **(703) 555-0845** Title: **Server**

Create a paper or electronic printout of only your record. Create an attractive, easy-to-read report for calling staff members when the schedule changes. Name the report **Lastname Firstname 3L Staff Phone List** and then create a paper or electronic printout of the report as directed.

End **You have completed Project 3L**

Apply a combination of the 3A and 3B skills.

GO! Think | Project 3M Donors and Gifts

Project Files

For Project 3M, you will need the following file:

a03M_Donors_Gifts

You will save your database as:

Lastname_Firstname_3M_Donors_Gifts

Use the skills you have practiced in this chapter to assist the Dean of Information Technology in using her database to create attractive forms and reports. The Dean would like an attractive form that would enable her work study student to enter the information in the Donors table. Create and save a form naming it **Lastname Firstname 3M Donor Update Form** Using your own name, add a new record with the following information:

Donor ID: **DNR-1212** Donor: **Lastname Foundation** Phone Number: **(703) 555-6091**

Create a paper or electronic printout of only your record. Create a donor list with the donor, contact names, and phone numbers so that the Dean can call the donors to thank them for donating gifts that will be distributed during the high school recruitment tours. Save the report as **Lastname Firstname 3M Donor Phone List** and then create a paper or electronic printout as directed.

Create a report grouped by Category and sorted by Item Description that includes the Retail Value totals and a Grand Total of the Retail Value of the gift items. Create a page footer control that displays **Created by Lastname Firstname** and then save the report as **Lastname Firstname 3M Gift Amounts by Category Report** and then create a paper or electronic printout as directed.

End **You have completed Project 3M**

Outcomes-Based Assessments

Apply a combination of the **3A** and **3B** skills

You and GO! | Project 3N Personal Inventory

Project Files

For Project 3N, you will need the following file:

Lastname_Firstname_2N_Personal_Inventory (your file from Chapter 2)

You will save your database as:

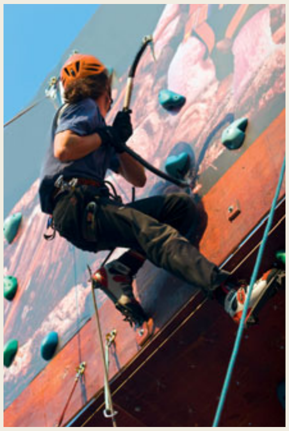
Lastname_Firstname_3N_Personal_Inventory

If you have your database from Project 2N, save it in your Access Chapter 3 folder as **Lastname_Firstname_3N_Personal_Inventory** If you do not have the database from Project 2N, create a new database, saving it in your Access Chapter 3 folder with the same name given above. In the database, create one table with at least 18 records. Include fields such as item, room location, value, and date of purchase. Your table should have items stored in several locations.

Using the table, create an attractive form, naming it **Lastname Firstname 3N Inventory Update Form** Using the form, enter at least three records and then create a paper or electronic printout of one of the new records. Using the table, create an attractive report including fields for the room location, item name, and value or purchase price of the item—you may add more fields if you desire. Group the report by the room location, and sort by the value or purchase price of the item, summarizing the values. Name the report **Lastname Firstname 3N Room Values Report** and then create a paper or electronic printout as directed.

End You have completed Project 3N

Business Running Case



Razvan CHIRNOAGA/Shutterstock

This project relates to **Front Range Action Sports**, which is one of the country's largest retailers of sports gear and outdoor recreation merchandise. The company has large retail stores in Colorado, Washington, Oregon, California, and New Mexico, in addition to a growing online business. Major merchandise categories include fishing, camping, rock climbing, winter sports, action sports, water sports, team sports, racquet sports, fitness, golf, apparel, and footwear.

In this project, you will apply skills you practiced from the Objectives in Access Chapters 1 through 3. You will create a database for Frank Osei, Vice President of Finance, that contains inventory and supplier information. In addition, you will create queries that answer specific questions relating to the inventory items and suppliers, forms for entering and updating information, and reports. Your printed results will look similar to Figure 1.1.

Project Files

For Project BRC1, you will need the following files:

New blank Access database
aBRC1_Inventory (Excel workbook)
aBRC1_Suppliers (Excel workbook)

You will save your database as:
Lastname_Firstname_BRC1_Inventory_Suppliers

Project Results

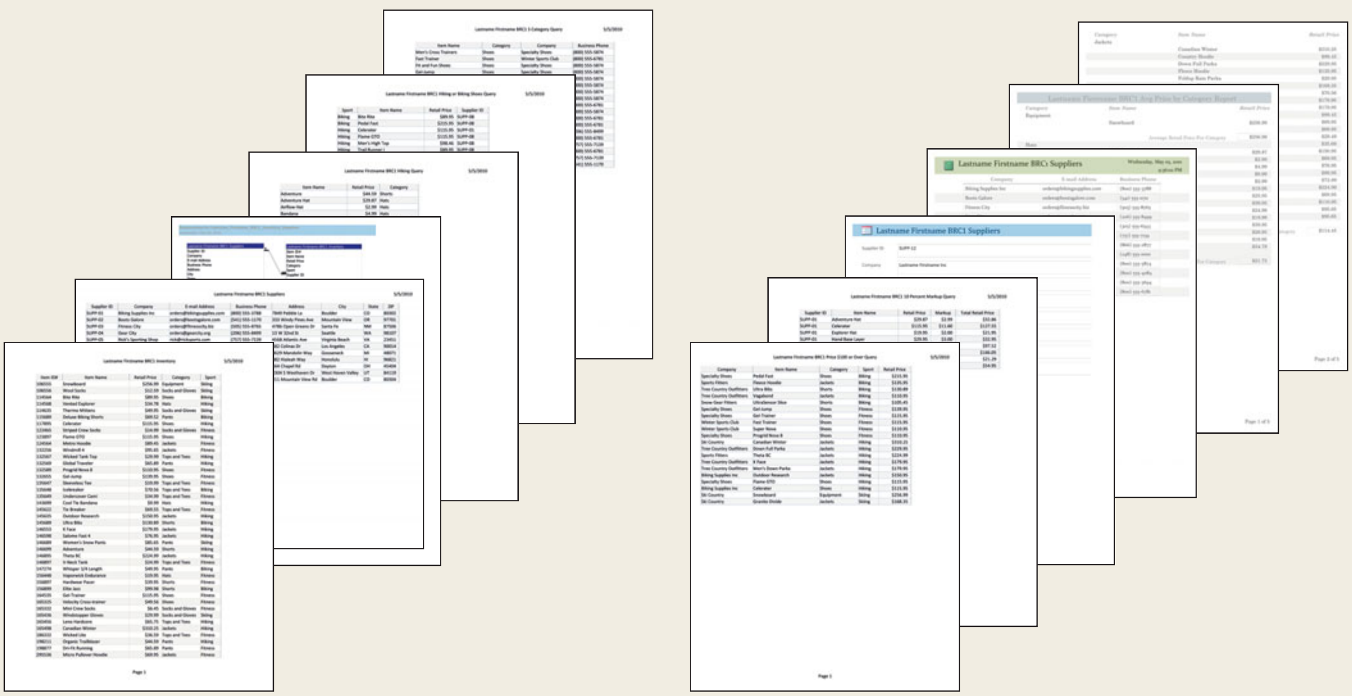


Figure 1.1

Business Running Case

Front Range Action Sports

1 **Start** Access to create a new **Blank database**. In the location where you are storing your projects, create a new folder named **Front Range Action Sports** or navigate to this folder if you have already created it. **Save** the database as **Lastname_Firstname_BRC1_ Inventory_Suppliers**

a. Rename the **ID** field to **Item ID#** and change the **Data Type** to **Text**. Then create the fields as shown in **Table 1**.

b. Enter the two records as shown in **Table 2**.

c. **Close** the table, **Save** it as **Lastname Firstname BRC1 Inventory** and then increase the width of the **Navigation Pane** to display the entire table name. On the **External Data tab**, in the **Import & Link group**, click the **Excel** button. Navigate to your student files, double-click **aBRC1_Inventory**, and then **Append a copy of the records** to the **BRC1 Inventory** table. From the **Navigation Pane**, open the **BRC1 Inventory** table and verify that there are 116 records in the table. Apply **Best Fit** to all of the fields—scroll down to be sure that all of the data in the **Item Name** field displays. Display the table in **Print Preview**, and then create a paper or electronic printout of the first page. **Close Print Preview**, **Close** the table, and **Save** changes to the layout of the table.

d. On the **External Data tab**, in the **Import & Link group**, click the **Excel** button. Navigate to your student files, double-click **aBRC1_Suppliers**, and then **Import the source data into a new table in the current database**. Click **First Row Contains Column Headings** and set the primary key to **Supplier ID**. Name the table **Lastname Firstname BRC1 Suppliers** and then **Open** the table. **Delete** the **Fax Number** field, and then apply **Best Fit** to all of the fields. Display the table in **Print Preview**, change the orientation to **Landscape**, change the **Margins** to **Normal**, and then create a paper or electronic printout as directed. **Close Print Preview**, **Close** the table, and save changes to the layout of the table. On the **Navigation Pane**, click the **Navigation Pane arrow**, and then click **Tables and Related Views**.

e. Click the **Database Tools tab**, and then in the **Relationships group**, click the **Relationships** button. In the **Show Table** dialog box, double-click **BRC1 Suppliers**, double-click **BRC1 Inventory**, and then **Close** the dialog box. Expand the field lists, and then in the **BRC1 Suppliers** field list, point to **Supplier ID**. Drag to the right into the **BRC1 Inventory** field list on top of the **Supplier ID** field, release the mouse button, click **Enforce Referential Integrity**, and then click **Create**. *One* supplier can supply *many* inventory items. Create a **Relationship Report**, **Save** the report with the default name, and then create a paper or electronic printout as directed. **Close Print Preview**, and then **Close** any open objects. Increase the width of the **Navigation Pane** to display the entire report name, and then **Close** the **Navigation Pane**.

2 Create a query in **Query Design** view, based on the **BRC1 Inventory** table to answer the question, *What is the Item Name (in alphabetical order), Retail Price, and Category for the Sport of Hiking?* Do not display the **Sport** field in the query results. Forty records meet the criteria. **Save** the query as **Lastname Firstname BRC1 Hiking Query** and then create a paper or electronic printout as directed. **Close Print Preview**, and then **Close** the query.

a. Create a copy of the **BRC1 Hiking Query**, saving the object as **Lastname Firstname BRC1 Hiking or Biking Shoes Query** Redesign the query to answer the question, *What is the Sport, Item Name, Retail Price, and Supplier ID for the Category of Shoes where the Sport is Hiking or Biking?* **Sort** the records by the **Sport** field and by the **Item Name** field. Do not display the **Category** field in the query results. Nine records meet the criteria. Create a paper or electronic

Table 1

Data Type	Text	Text	Currency	Text	Text	Text
Field Name	Item ID#	**Item Name**	**Retail Price**	**Category**	**Sport**	**Supplier ID**

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Table 2

Item#	Item Name	Retail Price	Category	Sport	Supplier ID#
106555	**Snowboard**	**256.99**	**Equipment**	**Skiing**	**SUPP-06**
106556	**Wool Socks**	**12.59**	**Socks and Gloves**	**Skiing**	**SUPP-04**

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Front Range Action Sports (continued)

printout as directed. **Close Print Preview**, and **Close** the query.

b. Create a query in **Query Design** view, based on the **BRC1 Suppliers** table and the **BRC1 Inventory** table to answer the question, *What is the Item Name, Category, Company, and Business Phone for Categories that begin with the letter S, and sorted by Category, for the Sport of Fitness?* Do not display the **Sport** category in the query results. Eighteen records meet the criteria. **Save** the query as **Lastname Firstname BRC1 S Category Query** and then create a paper or electronic printout as directed. **Close Print Preview**, and **Close** the query.

c. Create a query in **Query Design** view, based on the **BRC1 Suppliers** table and the **BRC1 Inventory** table to answer the question, *What is the Company, Item Name, Category, Sport, and Retail Price for items that have a retail price of $100 or greater sorted in ascending order by Sport and then in descending order by Retail Price?* Twenty records meet the criteria. **Save** the query as **Lastname Firstname BRC1 Price $100 or Over Query** and then create a paper or electronic printout as directed, changing the margins to **Normal**. **Close Print Preview**, and **Close** the query.

d. Create a query in **Query Design** view, based on the **BRC1 Inventory** table to answer the question, *For Supplier ID of SUPP-01, for each Item Name and Retail Price, what is the markup of each item if marked up 10%, and what is the final price?* All numeric fields should be formatted as **Currency**, **2 Decimal** places. Apply **Best Fit** to all of the fields, **Save** the query as **Lastname Firstname BRC1 10 Percent Markup Query** and then create a paper or electronic printout as directed. **Close Print Preview**, and then **Close** the query.

3 Based on the **BRC1 Suppliers** table, use the **Form** tool to create a form. Switch to **Form** view, and then using your own first name and last name for the **Company** field, add a new record as shown in **Table 3**.

a. Save the form as **Lastname Firstname BRC1 Supplier Form** and then create a paper or electronic printout of only the record you just created in the form, changing the **Column Width** to **7.5"** **Close Print Preview**, and then **Close** the form.

4 Based on the **BRC1 Suppliers** table, use the **Report** tool to create a new report. **Delete** the following fields from the report: **Supplier ID**, **Address**, **City**, **State**, and **ZIP**. Apply the **Paper** theme to this object only. **Sort** the **Company** field in **Ascending** order. Decrease the width of the **Business Phone** field to accommodate the longest entry in the field. **Bold** the field names, and **Center** the **Company** and **E-mail Address** field names over the data. Use the **layout selector** to visually center the layout between the left and right margins, and then visually center the **page number control** between the left and right margins. (Hint: scroll to the right to display the control.) **Save** the report as **Lastname Firstname BRC1 Suppliers Contact List** Display the report in **Print Preview**, and then create a paper or electronic printout as directed. **Close Print Preview**, and then **Close** the report.

5 Using the **Report Wizard**, create a report based on the **BRC1 Inventory** table. Add the following fields to the report: **Category**, **Item Name**, and **Retail Price**. **Group** by **Category**. **Sort** in **Ascending** order by **Item Name**. Find the **Average** of the **Retail Price** field. Select the **Stepped Layout**, and then as the report title, type **Lastname Firstname BRC1 Avg Price by Category Report**

a. In **Print Preview**, display the report by **Two Pages** and notice how the groupings are split between pages, that the **Retail Price** field name displays only *Price*, and that the prices in the text box and calculated controls display ###. **Close Print Preview**, and then switch to **Layout** view. Apply the **Oriel** theme to the report and no other objects.

b. Click the **Item Name** field name, hold down Shift, and then click the **text box control** that displays *Snowboard*. Decrease the width of the field until there is approximately **2** inches between **Item Name** and the right edge of the text box control. Scroll down the

Table 3

Supplier ID	Company	E-mail Address	Business Phone	Address	City	State	ZIP
SUPP-12	**Lastname Firstname Inc**	**info@watersports.biz**	**(305) 555-6543**	**14 South Beach Rd**	**Miami**	**FL**	**33125**

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Business Running Case

Front Range Action Sports (continued)

report to be sure that all Item Names display fully. Scroll to the top of the report, and then click the **Retail Price** field name, which displays only a portion of the word *Price*. Hold down Shift, click the **text box control** below the field name, which displays ###, and then click the **calculated control** that also displays ###. Increase the width of the controls by pointing to the left edge of any one of the selected controls and dragging it to the left until the entire field name—**Retail Price**—displays as the field name.

c. Delete the **Summary for 'Category' label controls**. Change the text in the **Avg label control** from *Avg* to **Average Retail Price Per Category** and then move the **label control** to the right until the right edge of the control is approximately **0.25 inch** from the left edge of its associated calculated control.

d. Click in the **title** of the report, and then change the **Font Size** to **16**. Visually center the title between the left and right margins of the report. Select all of the field names, and then apply **Bold** and **Italic**.

e On the **Design tab**, in the **Grouping & Totals** group, click the **Group & Sort** button. In the **Group, Sort, and Total** pane, click **More**. Click the **do not keep group together on one page arrow**, and then click **keep whole group together on one page**. In the **Grouping & Totals group**, click the **Group & Sort** button to close the **Group, Sort, and Total** pane. **Save** the report.

f. Display the report in **Print Preview** by **Two Pages**, and notice how the groupings are kept together on one page. On the **Print Preview tab**, in the **Print group**, click the **Print** button. In the **Print** dialog box, under **Print Range**, click **Pages**. In the **From** box, type **1** and in the **To** box, type **2** and then click **OK** to create a paper printout—or create an electronic printout as directed. **Close Print Preview**, and then **Close** the report.

6 **Open** the **Navigation Pane**, and if necessary, widen the pane to display fully all object names. Display **Backstage** view, click **Close Database**, and then click **Exit**.

End **You have completed Business Running Case 1**