Getting Started with Access Databases

OUTCOMES

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

OBJECTIVES

Mastering these objectives will enable you to:

PROJECT 1A
Create a new database.

1. Identify Good Database Design (p. 51)
2. Create a Table and Define Fields in a New Database (p. 52)
3. Change the Structure of Tables and Add a Second Table (p. 64)
4. Create and Use a Query, Form, and Report (p. 74)
5. Save and Close a Database (p. 80)

PROJECT 1B
Create a database from a template.

6. Create a Database Using a Template (p. 82)
7. Organize Objects in the Navigation Pane (p. 86)
8. Create a New Table in a Database Created with a Template (p. 88)
9. Print a Report and a Table in a Database Created with a Template (p. 90)

Joy Brown/Shutterstock

In This Chapter

In this chapter, you will use Microsoft Access 2010 to organize a collection of related information. Access is a powerful program that enables you to organize, search, sort, retrieve, and present information in a professional-looking manner. You will create new databases, enter data into Access tables, and create a query, form, and report—all of which are Access objects that make a database useful. In this chapter, you will also create a database from a template provided with the Access program. The template creates a complete database that you can use as provided, or you can modify it to suit your needs. Additional templates are available from the Microsoft Online Web site. For your first attempt at a database, consider using a template.

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.

GO! with Microsoft® Access 2010 Comprehensive, by Shelley Gaskin and Nancy Graviett. Published by Prentice Hall.

Project 1A Contact Information Database with Two Tables

myitlab Project 1A Training

Project Activities

In Activities 1.01 through 1.17, you will assist Dr. Justin Mitrani, Vice President of Instruction at Capital Cities Community College, in creating a new database for tracking the contact information for students and faculty members. Your completed database objects will look similar to Figure 1.1.

Project Files

For Project 1A, you will need the following files:

New blank Access database
a01A_Students (Excel workbook)
a01A_Faculty (Excel workbook)

You will save your database as:

Lastname_Firstname_1A_Contacts

Project Results

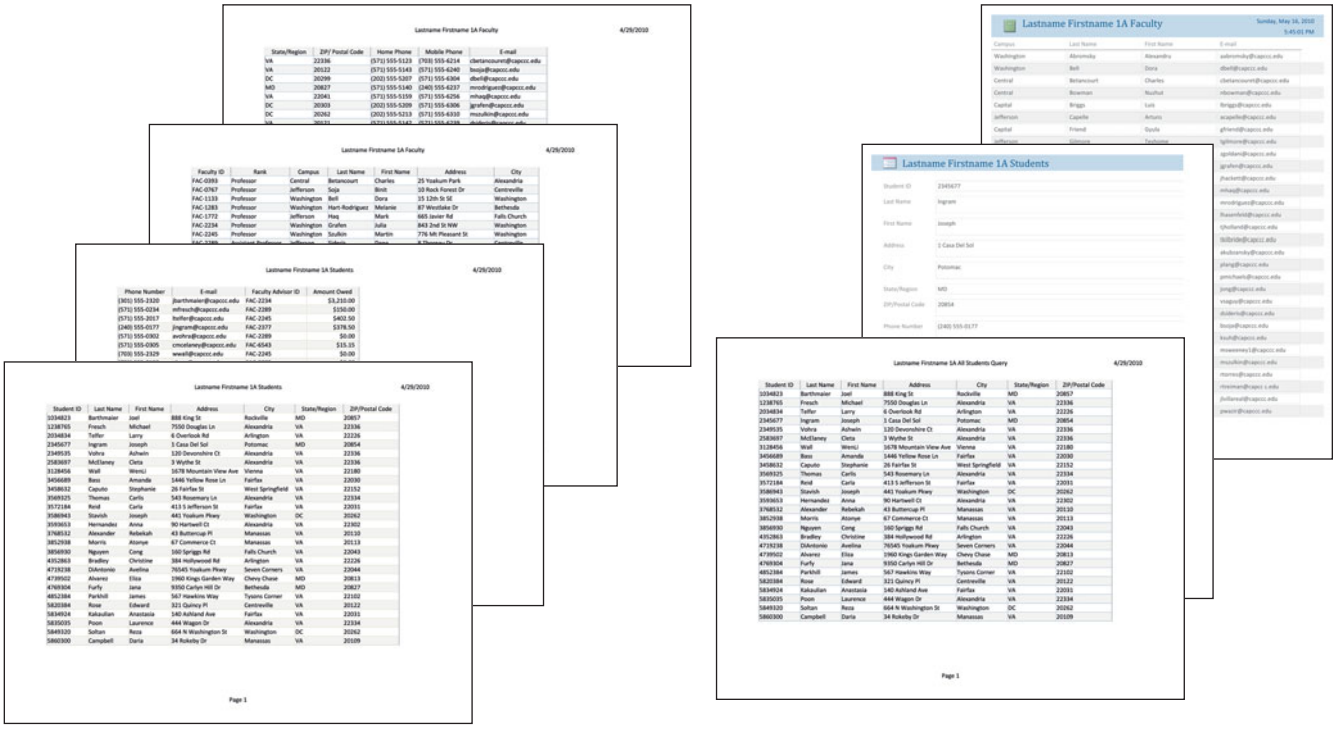


Figure 1.1
Project 1A Contacts

Objective 1 | Identify Good Database Design

A ***database*** is an organized collection of ***data***—facts about people, events, things, or ideas—related to a specific topic or purpose. ***Information*** is data that is organized in a useful manner. Your personal address book is a type of database, because it is a collection of data about one topic—the people with whom you communicate. A simple database of this type is called a ***flat database*** because it is not related or linked to any other collection of data. Another example of a simple database is a list of movie DVDs. You do not keep information about your DVDs in your address book because the data is not related to your addresses.

A more sophisticated type of database is a ***relational database***, because multiple collections of data in the database are related to one another; for example, data about the students, the courses, and the faculty members at a college. Microsoft Access 2010 is a relational ***database management system***—also referred to as a ***DBMS***—which is software that controls how related collections of data are stored, organized, retrieved, and secured.

Activity 1.01 | Using Good Design Techniques to Plan a Database

The first step in creating a new database is to determine the information you want to keep track of, and then ask yourself, *What questions should this database be able to answer for me?* The purpose of a database is to store the data in a manner that makes it easy for you to get the information you need by asking questions. For example, in the Contacts database for Capital Cities Community College, the questions to be answered might include:

How many students are enrolled at Capital Cities Community College?

How many faculty members teach in the Accounting Department?

Which and how many students live in Arlington, Virginia?

Which and how many students have a balance owed?

Which and how many students are majoring in Information Systems Technology?

Tables are the foundation of an Access database because all of the data is stored in one or more tables. A table is similar in structure to an Excel worksheet; that is, data is organized into rows and columns. Each table row is a ***record***—all of the categories of data pertaining to one person, place, thing, event, or idea. Each table column is a ***field***—a single piece of information for every record. For example, in a table storing student contact information, each row forms a record for only one student. Each column forms a field for a single piece of information for every record; for example, the student ID number for all students.

When organizing the fields of information in your database, break each piece of information into its smallest useful part. For example, create three fields for the name of a student—one field for the last name, one field for the first name, and one field for the middle name or initial.

The ***first principle of good database design*** is to organize data in the tables so that ***redundant***—duplicate—data does not occur. For example, record the contact information for students in only *one* table, because if the address for a student changes, the change can be made in just one place. This conserves space, reduces the likelihood of errors when recording the new data, and does not require remembering all of the different places where the address is stored.

The ***second principle of good database design*** is to use techniques that ensure the accuracy of data when it is entered into the table. Typically, many different people enter data into a database—think of all the people who enter data at your college. When entering a state in a contacts database, one person might enter the state as *Virginia* and another might enter the state as *VA*. Use design techniques to help those who enter data into a database do so in a consistent and accurate manner.

Normalization is the process of applying design rules and principles to ensure that your database performs as expected. Taking the time to plan and create a database that is well designed will ensure that you can retrieve meaningful information from the database.

The tables of information in a relational database are linked or joined to one another by a ***common field***—a field in one or more tables that stores the same data. For example, the Student Contacts table includes the Student ID, name, and address of every student. The Student Activities table includes the name of each club, and the Student ID—but not the name or address—of each student in each club. Because the two tables share a common field—Student ID—you can create a list of names and addresses of all the students in the Photography Club. The names and addresses are stored in the Student Contacts table, and the Student IDs of the Photography Club members are stored in the Student Activities table.

Objective 2 | Create a Table and Define Fields in a New Blank Database

There are two methods to create a new Access database: create a new database using a ***database template***—a preformatted database designed for a specific purpose—or create a new database from a blank database. A blank database has no data and has no database tools; you create the data and the tools as you need them.

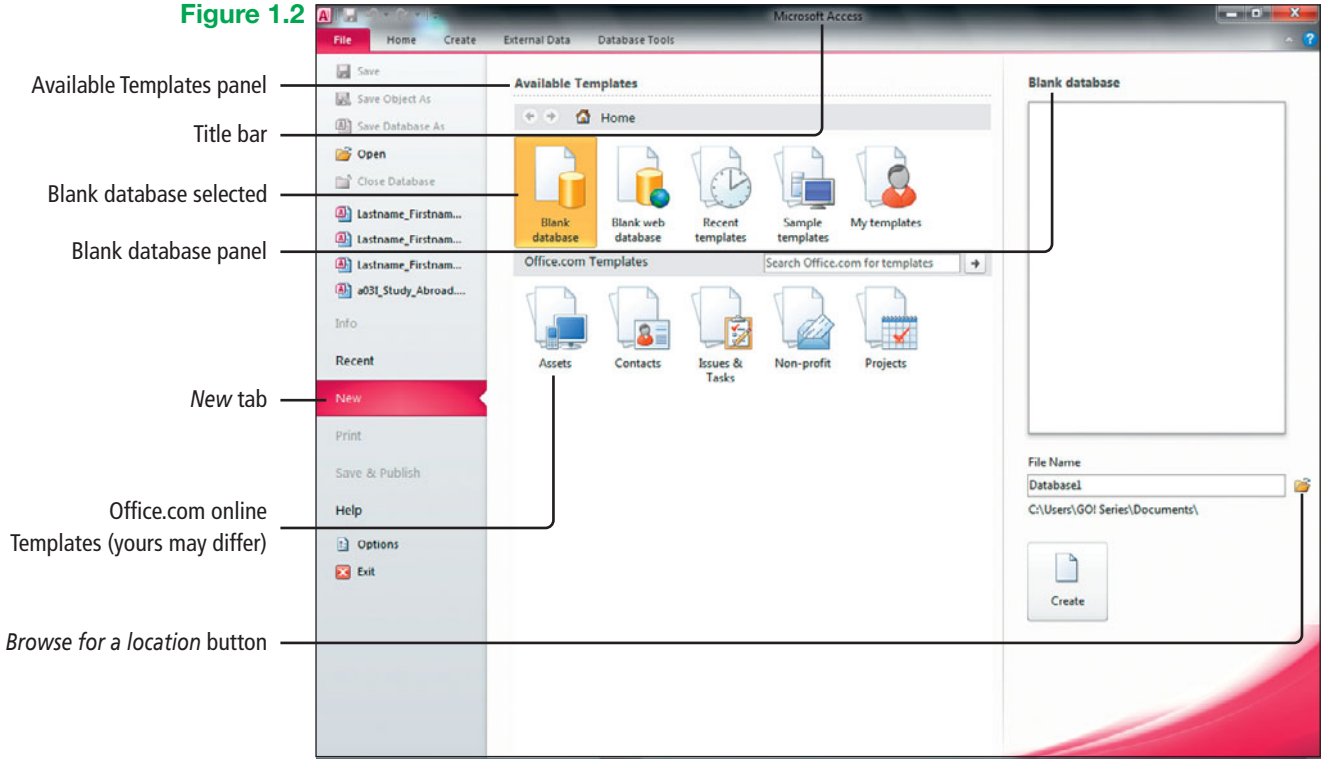
Regardless of the method you use, you must name and save the database before you can create any ***objects*** in it. Objects are the basic parts of a database; you create objects to store your data and to work with your data. The most common database objects are tables, forms, and reports. Think of an Access database as a container for the objects that you will create.

Activity 1.02 | Starting with a New Database

1 **Start** Access. Take a moment to compare your screen with Figure 1.2 and study the parts of the Microsoft Access window described in the table in Figure 1.3.

From this Access starting point in Backstage view, you can open an existing database, create a new blank database, or create a new database from a template.

Figure 1.2



Microsoft Access Opening Window

Window Part	Description
Available Templates panel	Displays alternative methods of creating a database.
Blank database	Starts a new blank database.
Blank database panel	Displays when *Blank database* button is selected under Available Templates.
Browse for location button	Enables you to select a storage location for the database.
New tab	Displays, when active in Backstage view, the various methods by which you can create a new database.
Office.com Templates	Displays template categories available from the Office.com Web site.
Title bar	Displays the Quick Access Toolbar, program name, and program-level buttons.

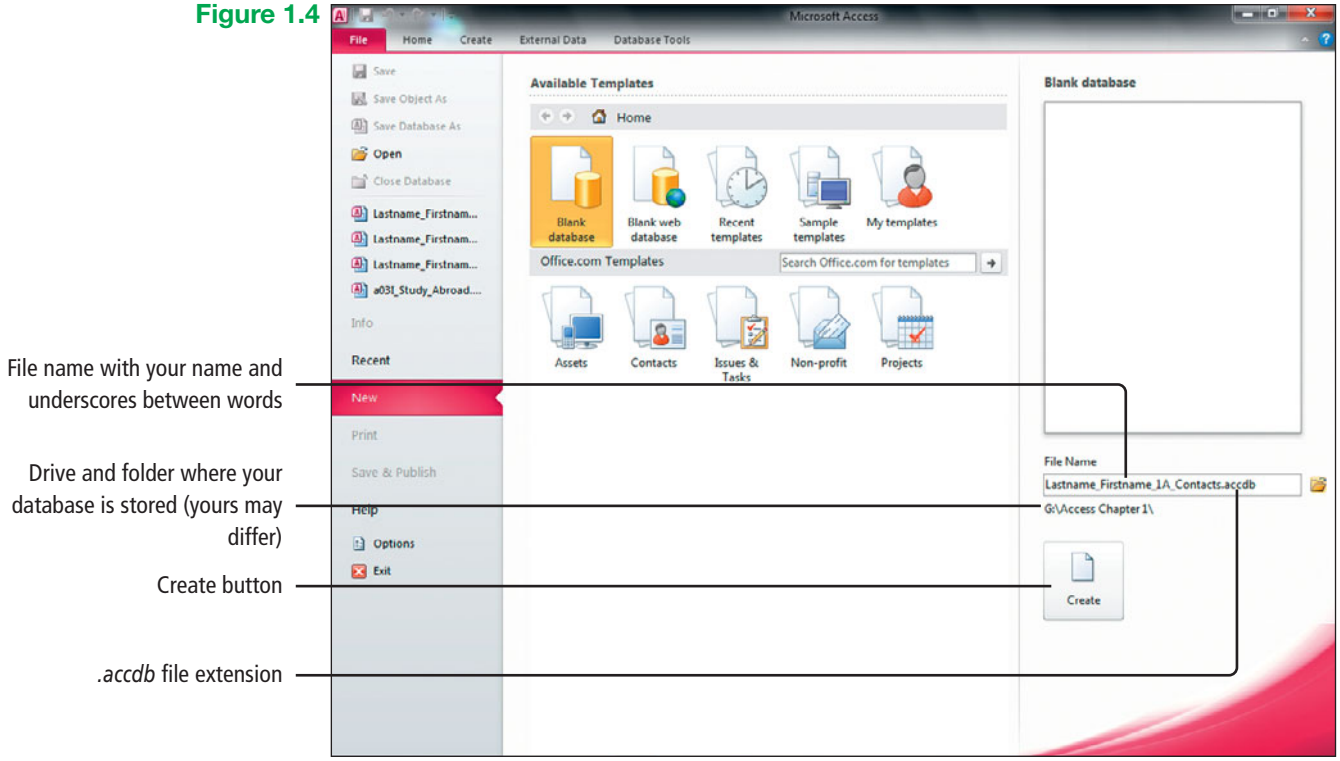
Figure 1.3

2 On the right, under **Blank database**, to the right of the **File Name** box, click the **Browse** button. In the **File New Database** dialog box, navigate to the location where you are saving your databases for this chapter, create a new folder named **Access Chapter 1** and then notice that *Database1* displays as the default file name—the number at the end of your file name might differ if you have saved a database previously with the default name. In the **File New Database** dialog box, click **Open**.

3 In the **File name** box, replace the existing text with **Lastname_Firstname_1A_Contacts** Press Enter, and then compare your screen with Figure 1.4.

On the right, the name of your database displays in the File Name box, and the drive and folder where the database is stored displays under the File Name box. An Access database has the file extension *.accdb*.

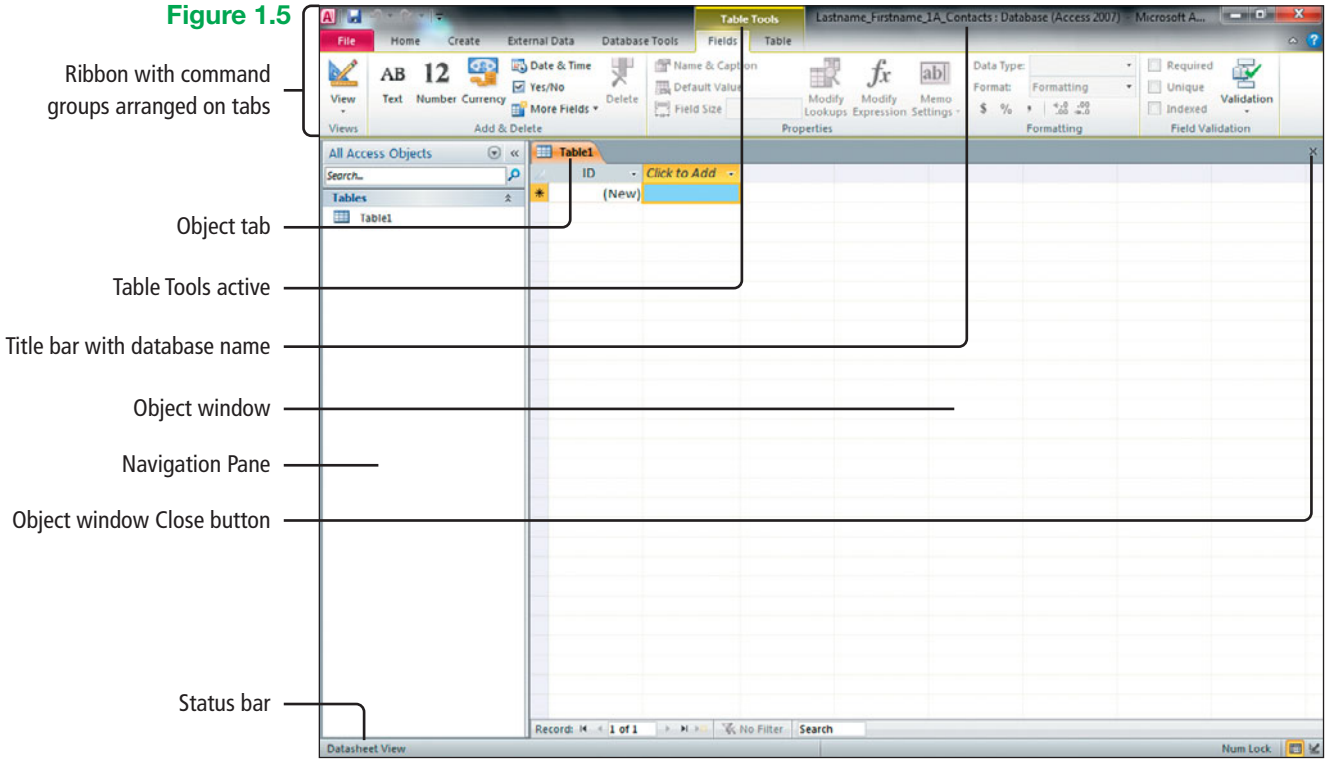
Figure 1.4



4 Under the **File Name** box, click the **Create** button, compare your screen with Figure 1.5, and then take a moment to study the screen elements described in the table in Figure 1.6.

Access creates the new database and opens *Table1*. Recall that a ***table*** is an Access object that stores your data in columns and rows, similar to the format of an Excel worksheet. Table objects are the foundation of a database because tables store the actual data.

Figure 1.5



Parts of the Access Database Window

Window Part	Description
Navigation Pane	Displays the database objects; from here you open the database objects to display in the object window at the right.
Object tab	Identifies and enables you to select the open object.
Object window	Displays the active or open object (table, query, or other object).
Object window Close button	Closes the active object (table, query, or other object).
Ribbon with command groups arranged on tabs	Groups the commands for performing related database tasks on tabs.
Status bar	Indicates the active view and the status of actions occurring within the database on the left; provides buttons to switch between Datasheet view and Design view on the right.
Table Tools	Provides tools for working with a table object; Table Tools are available only when a table is displayed.
Title bar	Displays the name of your database.

Figure 1.6

Activity 1.03 | Assigning the Data Type and Name to Fields

After you have saved and named your database, the next step is to consult your database plan, and then create the tables in which to enter your data. Limit the data in each table to *one* subject. For example, in this project, your database will have two tables—one for student contact information and one for faculty contact information.

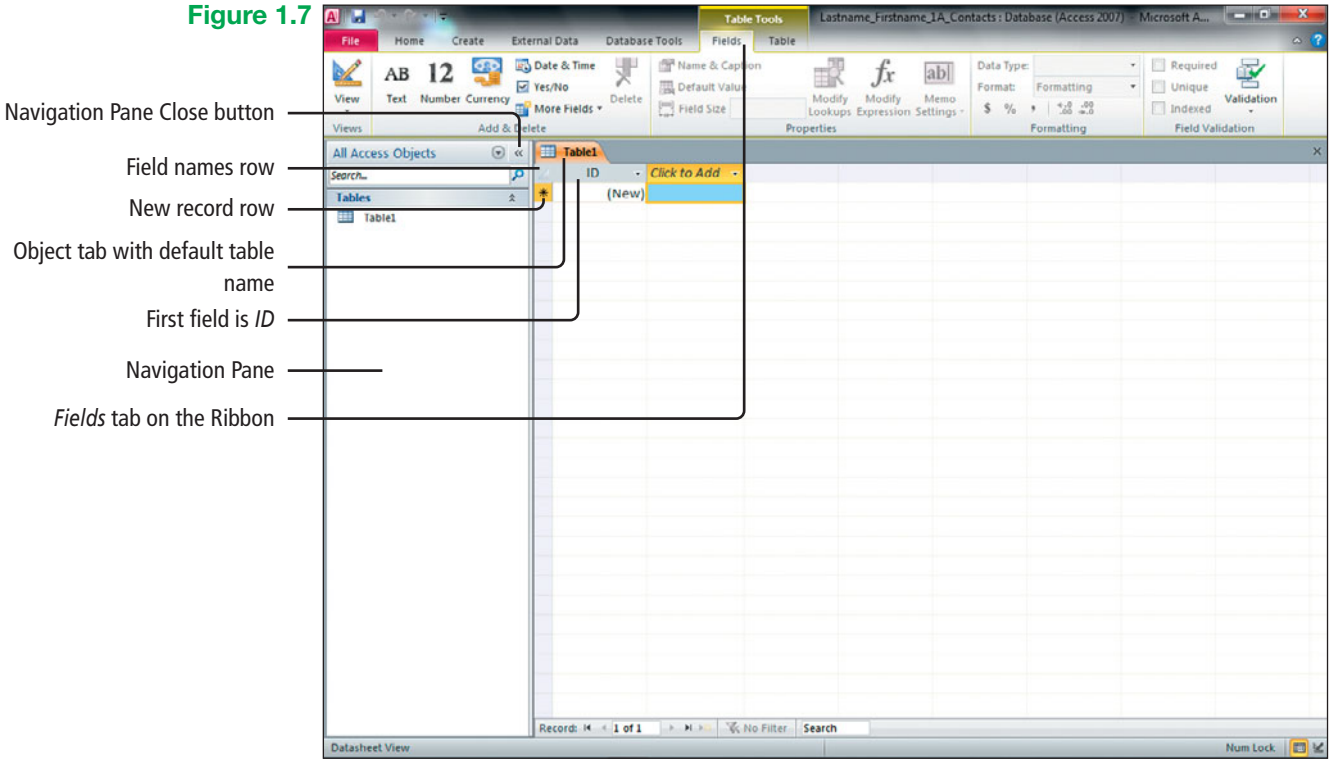
Recall that each column in a table is a field and that field names display at the top of each column of the table. Recall also that each row in a table is a record—all of the data pertaining to one person, place, thing, event, or idea. Each record is broken up into its smallest usable parts—the fields. Use meaningful names to name fields; for example, *Last Name*.

1 Notice the new blank table that displays in Datasheet view, and then take a moment to study the elements of the table's object window. Compare your screen with Figure 1.7.

The table displays in ***Datasheet view***, which displays the data as columns and rows similar to the format of an Excel worksheet. Another way to view a table is in ***Design view***, which displays the underlying design—the ***structure***—of the table's fields. The ***object window*** displays the open object—in this instance, the table object.

In a new blank database, there is only one object—a new blank table. Because you have not yet named this table, the object tab displays a default name of *Table1*. Access creates the first field and names it *ID*. In the ID field, Access assigns a unique sequential number—each number incremented by one—to each record as it is entered into the table.

Figure 1.7



2 In the **Navigation Pane**, click the **Open/Close** button « to collapse the **Navigation Pane** to a narrow bar on the left and to display more of the table.

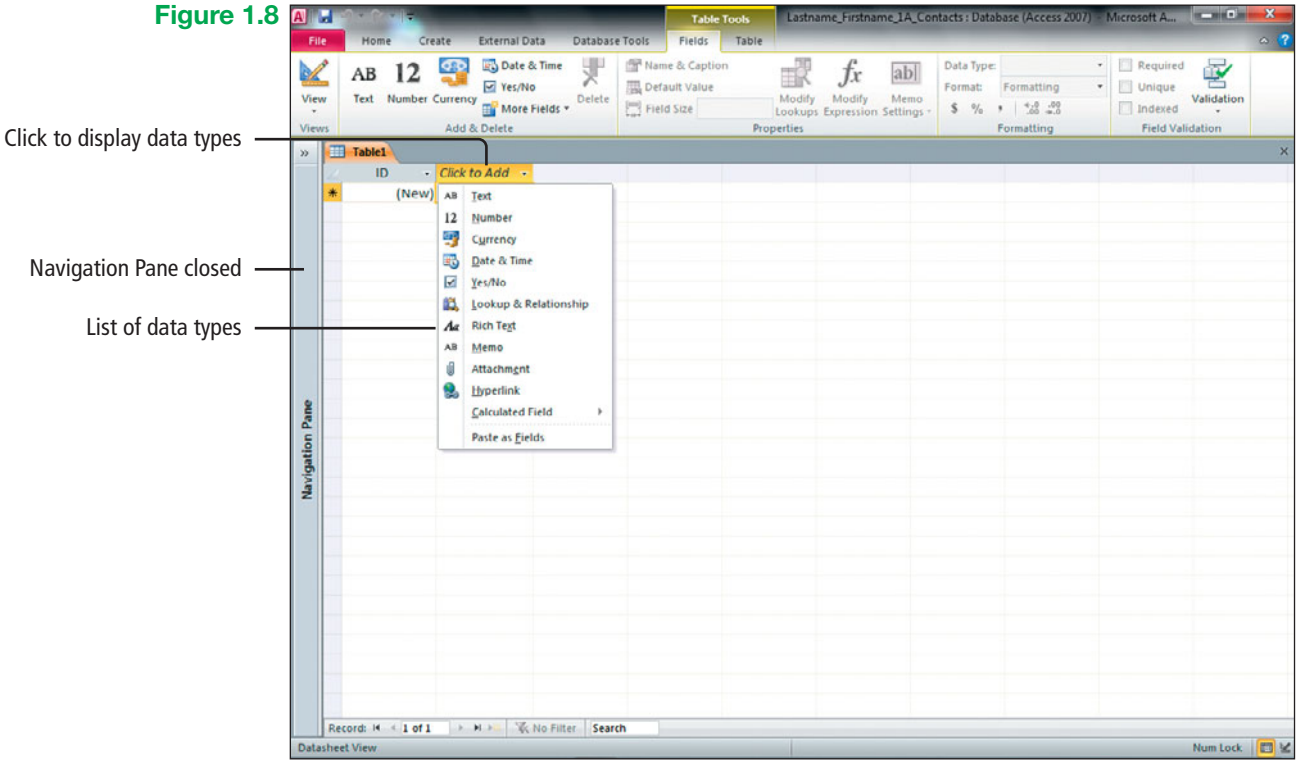
The ***Navigation Pane*** is an area of the Access window that displays and organizes the names of the objects in a database. From the Navigation Pane, you can open objects for use.

Another Way
To the right of *Click to Add*, click the arrow.

3 In the field names row, click anywhere in the text *Click to Add* to display a list of data types. Compare your screen with Figure 1.8.

Data type is the characteristic that defines the kind of data that you can type in a field, such as numbers, text, or dates. A field in a table can have only one data type. Part of your database design should include deciding on the data type of each field. After you have selected the data type, you can name the field.

Figure 1.8



4 In the list of data types, click **Text**, and notice that in the second column, *Click to Add* changes to *Field1*, which is selected. Type **Last Name** and then press Enter.

The second column displays *Last Name* as the field name, and the data type list displays in the third column. The ***Text data type*** describes text, a combination of text and numbers, or numbers that are not used in calculations, such as a ZIP code.

Another Way

With the list of data types displayed, type *T* to select Text.

5 In the third field name box, click **Text**, type **First Name** and then press Enter. In the fourth field name box, click **Text**, type **Middle Initial** and then press Enter.

6 Using the technique you just practiced, create the remaining fields as follows by first selecting the data type, then typing the field name, and then pressing Enter. The field names in the table will display on one line.

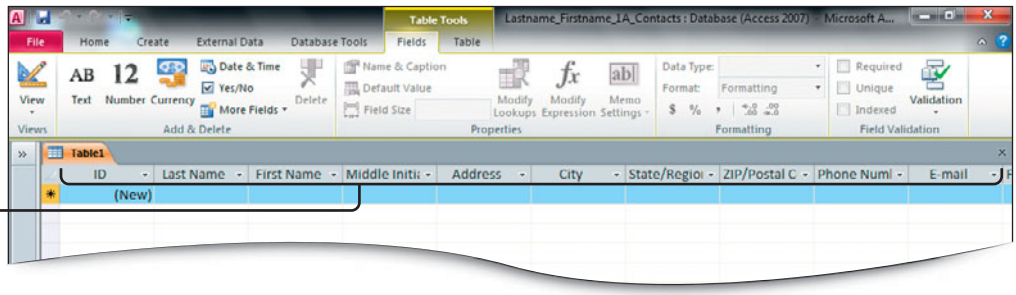
The ZIP/Postal Code field is assigned a data type of Text because the number is never used in a calculation. The Amount Owed field is assigned a data type of Currency; the ***Currency data type*** describes monetary values and numeric data used in mathematical calculations involving data with one to four decimal places. Access automatically adds a U.S. dollar sign ($) and two decimal places to all of the numbers in the fields with a data type of *Currency*.

Data Type		Text	Text	Text	**Text**	**Text**	**Text**	**Text**	**Text**	**Text**	**Text**	**Currency**
Field Name	ID	Last Name	First Name	Middle Initial	**Address**	**City**	**State/ Region**	**ZIP/Postal Code**	**Phone Number**	**E-mail**	**Faculty Advisor ID**	**Amount Owed**

7 If necessary, by using the horizontal scroll bar at the bottom of the screen, scroll to the left to bring the first column into view. Compare your screen with Figure 1.9.

Access automatically created the ID field, and you created 11 additional fields in the table. The horizontal scroll bar indicates that there are additional fields that are not displayed on the screen—your screen width may vary.

Figure 1.9



Twelve fields created—scroll to the left to display *ID* and *Last Name* fields

Activity 1.04 | Renaming Fields and Changing Data Types in a Table

Another Way

Right-click the field name, and then on the shortcut menu, click Rename Field.

1 Click anywhere in the text *ID*. In the **Properties group**, click the **Name & Caption** button. In the **Enter Field Properties** dialog box, in the **Name** box, change *ID* to **Student ID** and then click **OK**.

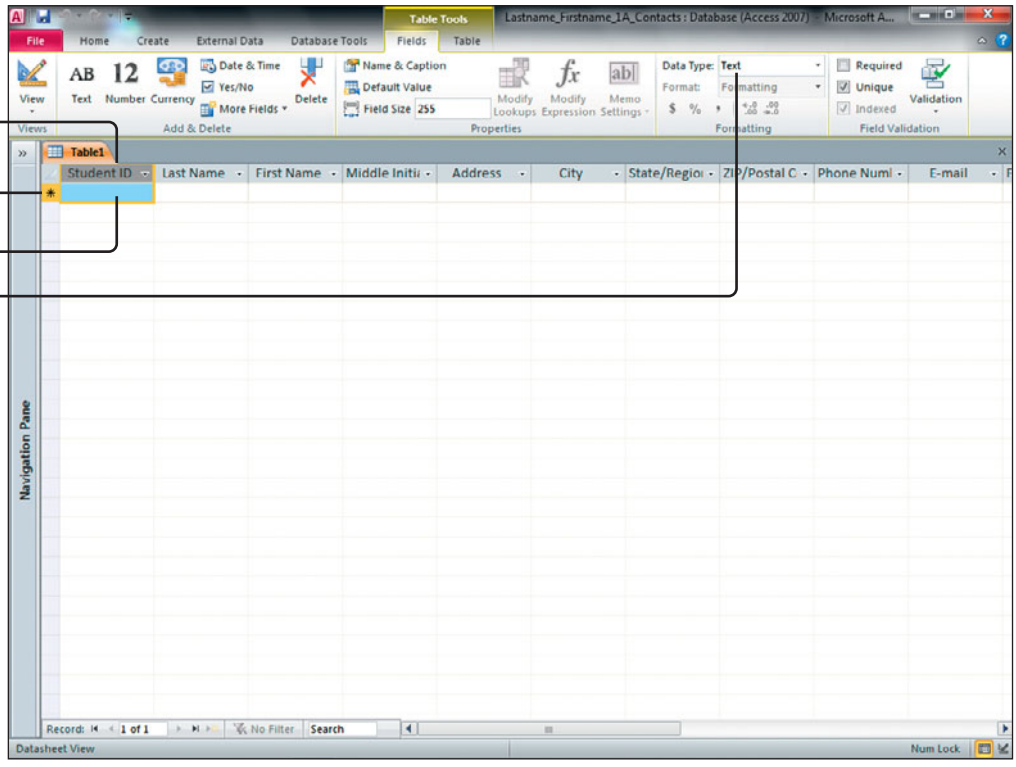
The field name *Student ID* is a better description of the data in this field. In the Enter Field Properties dialog box, the ***Caption*** property is used to display a name for a field other than that listed as the field name. Many database designers do not use spaces in field names; instead, they might name a field LastName—with no spaces—and then create a caption for that field so it displays with spaces in tables, forms, and reports. In the Enter Field Properties dialog box, you can also provide a description for the field if you want to do so.

2 In the **Formatting group**, notice that the **Data Type** for the **Student ID** field is *AutoNumber*. Click the **Data Type arrow**, click **Text**, and then compare your screen with Figure 1.10.

In the new record row, the Student ID field is selected. By default, Access creates an ID field for all new tables and sets the data type for the field to AutoNumber. The ***AutoNumber data type*** describes a unique sequential or random number assigned by Access as each record is entered. By changing the data type of this field from *AutoNumber* to *Text,* you can enter a custom student ID number.

When records in a database have *no* unique value, for example the names in your address book, the AutoNumber data type is a useful way to automatically create a unique number so that you have a way to ensure that every record is different from the others.

Figure 1.10



Field renamed

New record row—indicated by asterisk

Selected field

Data type indicates *Text*

Activity 1.05 | Adding a Record to a Table

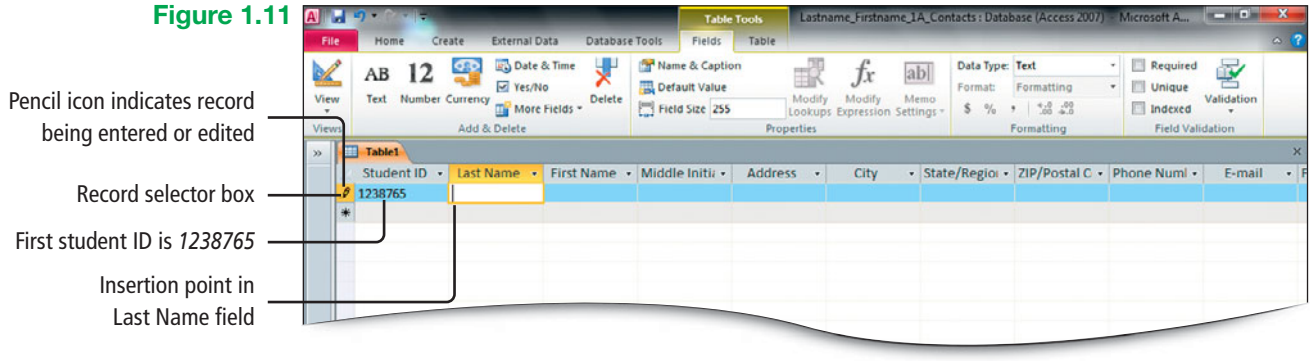
A new address book is not useful until you fill it with names, addresses, and phone numbers. Likewise, a new database is not useful until you ***populate*** it—fill one or more tables with data. You can populate a table with records by typing data directly into the table.

Another Way
Press Tab to move to the next field.

1 In the new record row, click in the **Student ID** field to display the insertion point, type **1238765** and then press Enter. Compare your screen with Figure 1.11.

The pencil icon in the ***record selector box***—the small box at the left of a record in Datasheet view that, when clicked, selects the entire record—indicates that a record is being entered or edited.

Figure 1.11



2 With the insertion point positioned in the **Last Name** field, type **Fresch** and then press Enter.

> **Note | Correct Typing Errors**
> Correct typing errors by using the techniques you have practiced in other Office applications. For example, use Backspace to remove characters to the left, Del to remove characters to the right, or select the text you want to replace and type the correct information. Press Esc to exit out of a record that has not been completely entered.

3 In the **First Name** field, type **Michael** and then press Enter.

4 In the **Middle Initial** field, type **B** and then press Enter.

5 In the **Address** field, type **7550 Douglas Ln** and then press Enter.

Do not be concerned if the data does not completely display in the column. As you progress in your study of Access, you will adjust the column widths so that you can view all of the data.

6 Continue entering data in the fields as indicated below, pressing Enter to move to the next field.

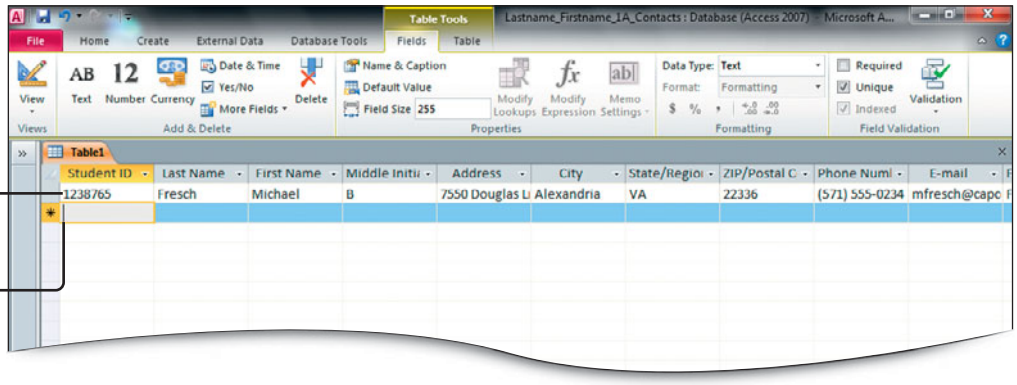
City	State/Region	ZIP/Postal Code	Phone Number	E-mail	Faculty Advisor ID
Alexandria	**VA**	**22336**	**(571) 555-0234**	**mfresch@capccc.edu**	**FAC-2289**

> **Note | Format for Typing Telephone Numbers in Access**
> Access does not require any specific format for typing telephone numbers in a database. The examples in this project use the format of Microsoft Outlook. Using such a format facilitates easy transfer of Outlook information to and from Access.

7 In the **Amount Owed** field, type **150** and then press Enter. Compare your screen with Figure 1.12.

Pressing Enter or Tab in the last field moves the insertion point to the next row to begin a new record. As soon as you move to the next row, Access saves the record—you do not have to take any specific action to save a record.

Figure 1.12



8 To give your table a meaningful name, on the Quick Access Toolbar, click the **Save** button. In the **Save As** dialog box, in the **Table Name** box, using your own name, replace the highlighted text by typing **Lastname Firstname 1A Students**

Save each database object with a name that identifies the data that it contains. When you save objects within a database, it is not necessary to use underscores. Your name is included as part of the object name so that you and your instructor can identify your printouts or electronic files.

9 In the **Save As** dialog box, click **OK**, and then notice that the object tab displays the new table name you just typed.

More Knowledge | Renaming a Table

To change the name of a table, close the table, display the Navigation Pane, right-click the table name, and then on the shortcut menu, click Rename. Type the new name or edit as you would any selected text.

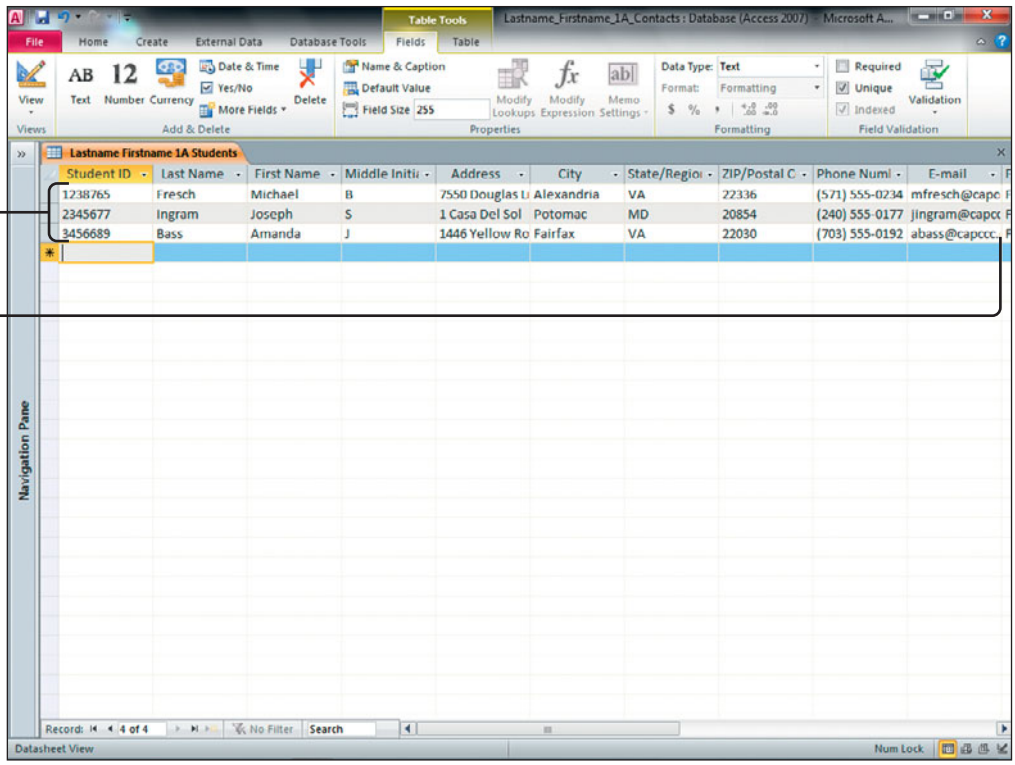
Activity 1.06 | Adding Additional Records to a Table

1 In the new record row, click in the **Student ID** field, and then enter the contact information for the following two additional students, pressing Enter or Tab to move from field to field. The data in each field will display on one line in the table.

Student ID	Last Name	First Name	Middle Initial	Address	City	State/ Region	ZIP/ Postal Code	Phone Number	E-mail	Faculty Advisor ID	Amount Owed
2345677	**Ingram**	**Joseph**	**S**	**1 Casa Del Sol**	**Potomac**	**MD**	**20854**	**(240) 555-0177**	**jingram@capccc.edu**	**FAC-2377**	**378.5**
3456689	**Bass**	**Amanda**	**J**	**1446 Yellow Rose Ln**	**Fairfax**	**VA**	**22030**	**(703) 555-0192**	**abass@capccc.edu**	**FAC-9005**	**0**

2 Compare your screen with Figure 1.13.

Figure 1.13



Activity 1.07 | Importing Data from an Excel Workbook into an Existing Access Table

When you create a database table, you can type the records directly into a table. You can also ***import*** data from a variety of sources. Importing is the process of copying data from one source or application to another application. For example, you can import data from a Word table or an Excel worksheet into an Access database because the data is arranged in columns and rows, similar to a table in Datasheet view.

In this activity, you will ***append***—add on—data from an Excel spreadsheet to your *1A Students* table. To append data, the table must already be created, and it must be closed.

1 In the upper right corner of the table, below the Ribbon, click the **Object Close** button to close your **1A Students** table. Notice that no objects are open.

2 On the Ribbon, click the **External Data tab**. In the **Import & Link group**, click the **Excel** button. In the **Get External Data - Excel Spreadsheet** dialog box, click the **Browse** button.

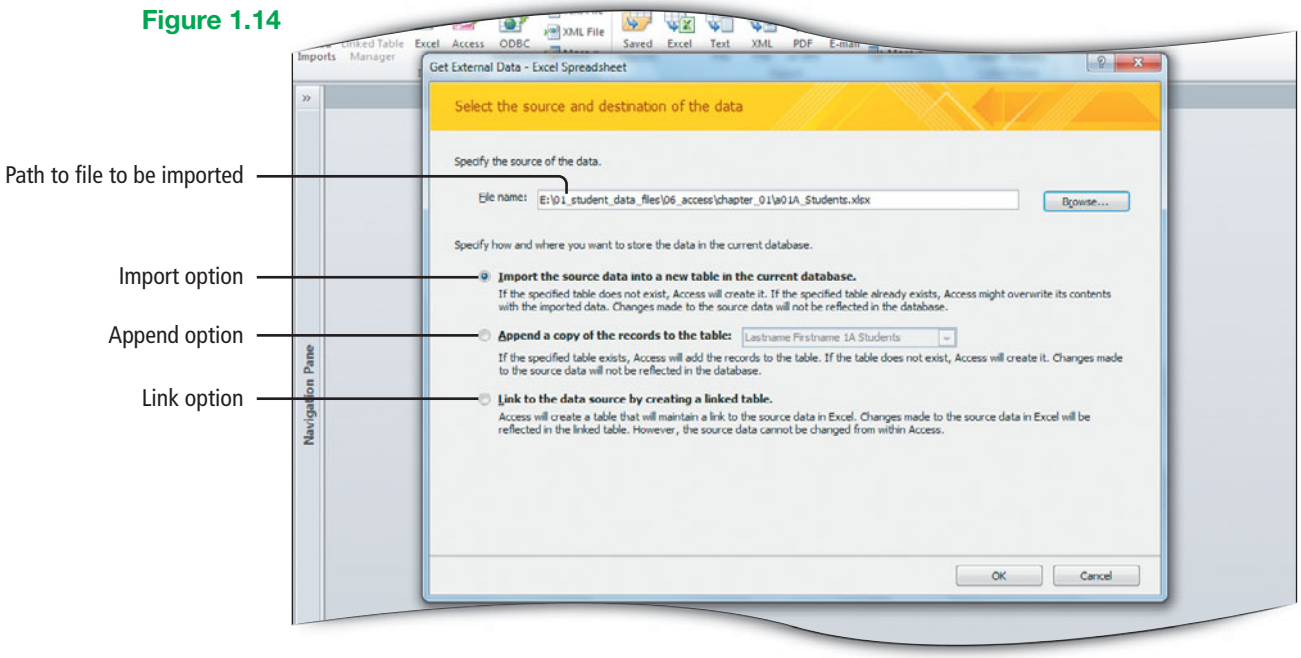
Another Way

Select the file name, and in the lower right area of the dialog box, click Open.

3 In the **File Open** dialog box, navigate to your student files, locate and double-click the Excel file **a01A_Students**, and then compare your screen with Figure 1.14.

The path to the ***source file***—the file being imported—displays in the File name box. There are three options for importing data from an Excel workbook—import the data into a *new* table in the current database, append a copy of the records to an existing table, or link the data from Excel to a linked table. A ***link*** is a connection to data in another file. When linking, Access creates a table that maintains a link to the source data.

Figure 1.14



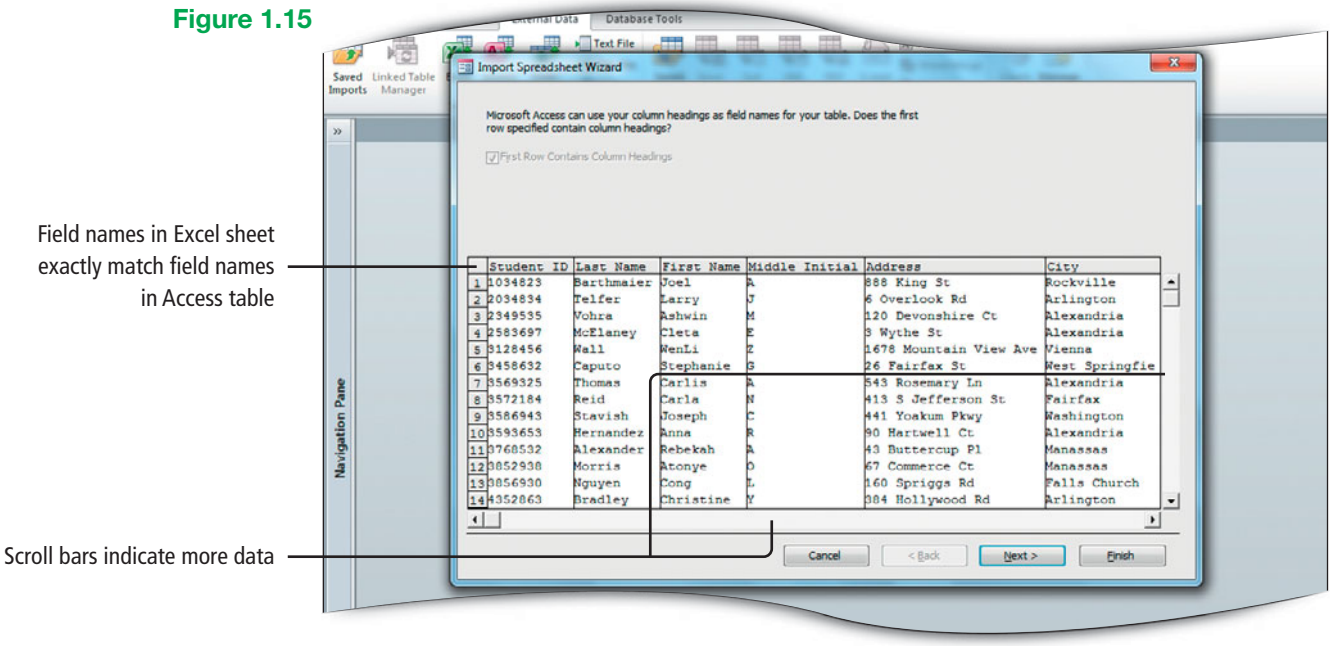
4 Click the **Append a copy of the records to the table** option button, and then in the box to its right, click the **arrow**.

Currently your database has only one table, so no other tables display on the list. However, when a database has multiple tables, here you can select the table to which you want to append records. The table into which you import or append data is referred to as the ***destination table***.

5 Press Esc to cancel the list, and then in the lower right corner of the dialog box, click **OK**. Compare your screen with Figure 1.15.

The first screen of the Import Spreadsheet Wizard displays, and the presence of scroll bars indicates that records and fields are out of view in this window. To append records from an Excel worksheet to an existing database table, the field names in the Excel worksheet must be identical to the field names in the table, and that is true in this table.

Figure 1.15

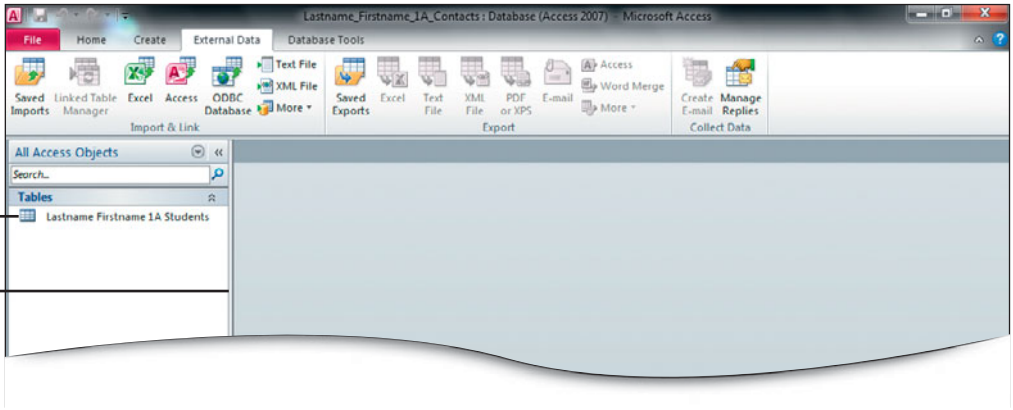


6 In the lower right corner, click **Next**. Notice that the name of your table displays under **Import to Table**. In the lower right corner, click **Finish**.

7 In the **Get External Data - Excel Spreadsheet** dialog box, click **Close**, and then **Open** the **Navigation Pane**.

8 Point to the right edge of the **Navigation Pane** to display the pointer. Drag to the right to widen the pane to display the entire table name, and then compare your screen with Figure 1.16.

Figure 1.16



Another Way

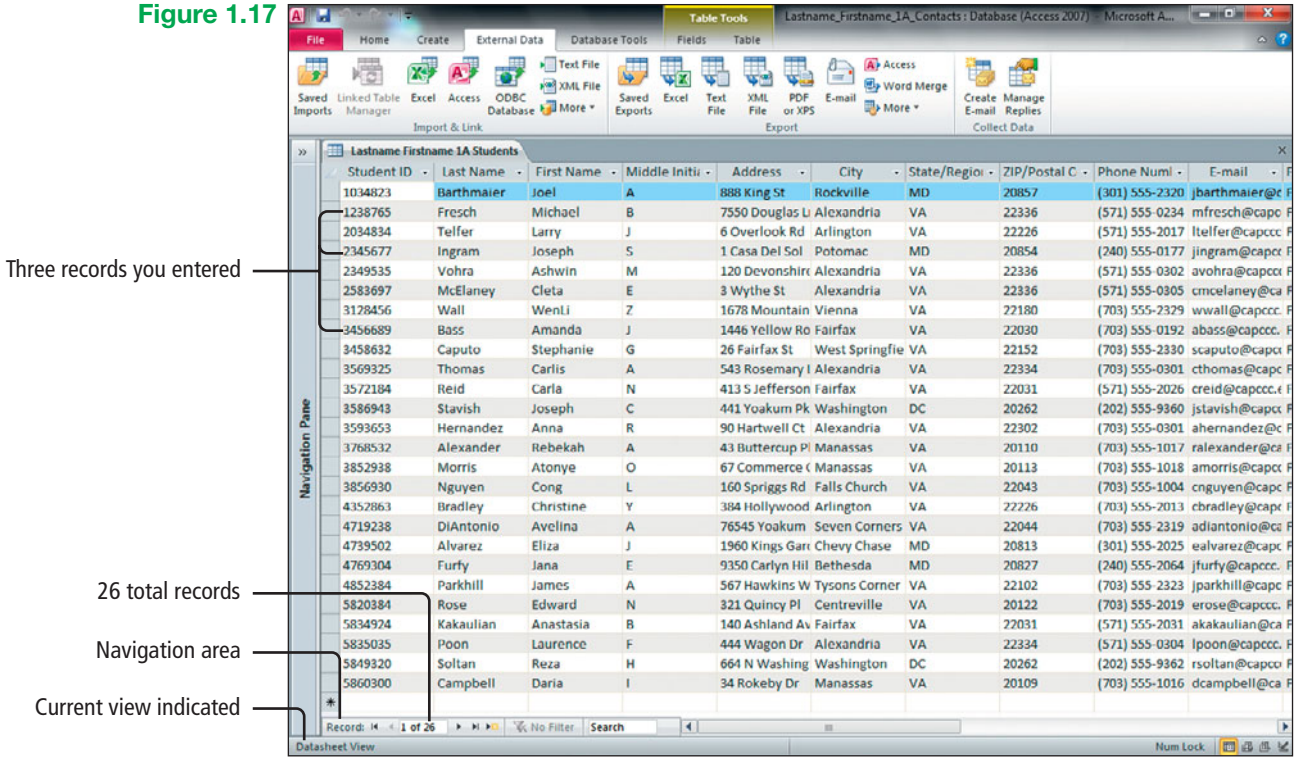
To open an object from the Navigation Pane, right-click the object name, and then on the shortcut menu, click Open.

9 In the **Navigation Pane**, double-click your **1A Students** table to open the table in Datasheet view, and then **Close** the **Navigation Pane**.

10 At the bottom left corner of your screen, locate the navigation area, and notice that there are a total of **26** records in the table—you created three records and imported 23 additional records. Compare your screen with Figure 1.17.

The records from the Excel worksheet display in your table, and the first record is selected. The ***navigation area*** indicates the number of records in the table and contains controls (arrows) with which you can navigate among the records.

Figure 1.17



Objective 3 | Change the Structure of Tables and Add a Second Table

Recall that the structure of a table is the underlying design, including field names and data types. You can create a table or modify a table in Datasheet view. To define and modify fields, many database experts prefer to work in Design view, where you have many additional options for defining the fields in a table.

Activity 1.08 | Deleting a Table Field in Design View

In this activity, you will delete the *Middle Initial* field from the table.

1 Click the **Home tab**, and then in the **Views group**, click the **View button arrow**.

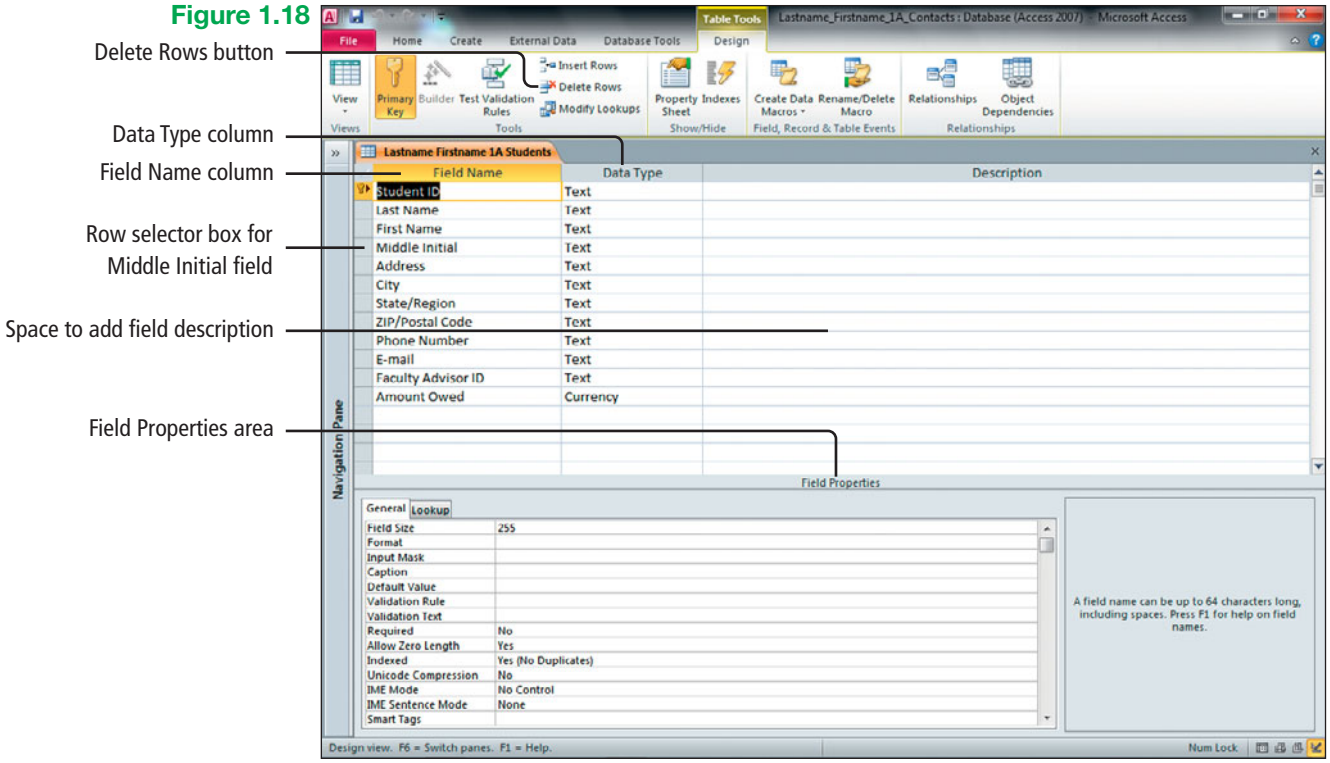
There are four common views in Access, but two that you will use often are Datasheet view and Design view. On the displayed list, Design view is represented by a picture of a pencil, a ruler, and an angle. When one of these four icons is displayed on the View button, clicking the View button will display the table in the view represented by the icon. Datasheet view displays the table data in rows and columns.

2 On the list, click **Design View**, and then compare your screen with Figure 1.18.

Design view displays the underlying design—the structure—of the table and its fields. In Design view, you cannot view the data; you can view only the information about each field's characteristics. Each field name is listed, along with its data type. A column to add a Description—information about the data in the field—is provided.

In the Field Properties area, you can make additional decisions about how each individual field looks and behaves. For example, you can set a specific field size.

Figure 1.18



3 In the **Field Name** column, to the left of **Middle Initial**, point to the row selector box to display the ➡ pointer, and then click one time to select the entire row.

Another Way

Right-click the selected row and click Delete Rows.

4 On the **Design tab**, in the **Tools group**, click the **Delete Rows** button, read the message in the message box, and then click **Yes**.

Deleting a field deletes both the field and its data; you cannot undo this action. Thus, Access prompts you to be sure you want to proceed. If you change your mind after deleting a field, you must add the field back into the table and then reenter the data in that field for every record.

Activity 1.09 | Modifying a Field Size and Adding a Description

Typically, many individuals enter data into a table. For example, at your college many Registration Assistants enter and modify student and course information daily. Two ways to help reduce errors are to restrict what can be typed in a field and to add descriptive information.

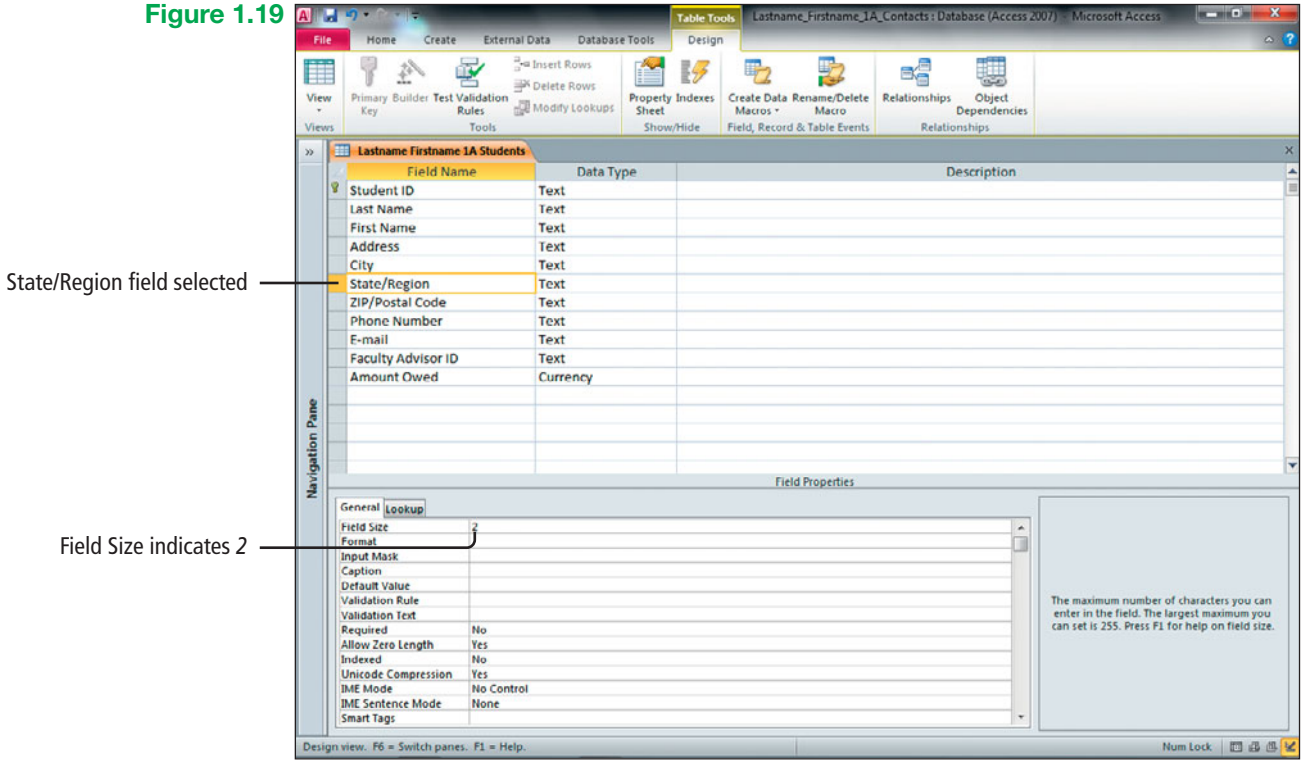
1 With your table still displayed in **Design** view, in the **Field Name** column, click anywhere in the **State/Region** field name.

2 In the lower portion of the screen, under **Field Properties**, click **Field Size** to select the text *255*, type **2** and then compare your screen with Figure 1.19.

This action limits the size of the State/Region field to no more than two characters—the size of the two-letter state abbreviations provided by the United States Postal Service. ***Field properties*** control how the field displays and how data can be entered in the field. You can define properties for every field in the Field Properties area.

The default field size for a text field is 255. Limiting the field size property to 2 ensures that only two characters can be entered for each state. However, this does not prevent someone from entering two characters that are incorrect. Setting the proper data type for the field and limiting the field size are two ways to *help* to reduce errors.

Figure 1.19



3 In the **State/Region** row, click in the **Description** box, type **Two-character state abbreviation** and then press Enter.

Descriptions for fields in a table are optional. Include a description if the field name does not provide an obvious explanation of the field. Information typed in the description area displays on the left side of the status bar in Datasheet view when the field is active, providing additional information to individuals who are entering data.

When you enter a description for a field, a Property Update Options button displays below the text you typed, which enables you to copy the description for the field to all other database objects that use this table as an underlying source.

4 Click in the **Student ID** field name box. Using the technique you practiced, in the **Field Properties** area, change the **Field Size** to **7**

By limiting the field size to seven characters, which is the maximum number of characters in a Student ID, you help to ensure the accuracy of the data.

5 In the **Student ID** row, click in the **Description** box, and then type **Seven-digit Student ID number**

6 Click in the **Faculty Advisor ID** field name box. In the **Field Properties** area, change the **Field Size** to **8** In the **Description** box for this field, type **Eight-character ID of faculty member assigned as advisor** and then press Enter.

7 On the Quick Access Toolbar, click the **Save** button  to save the design changes to your table, and then notice the message.

The message indicates that the field size property of one or more fields has changed to a shorter size. If more characters are currently present in the Student ID, State/Region, or Faculty Advisor ID than you have allowed, the data could be ***truncated***—cut off or shortened—because the fields were not previously restricted to a specific number of characters.

8 In the message box, click **Yes**.

Activity 1.10 | Viewing a Primary Key in Design View

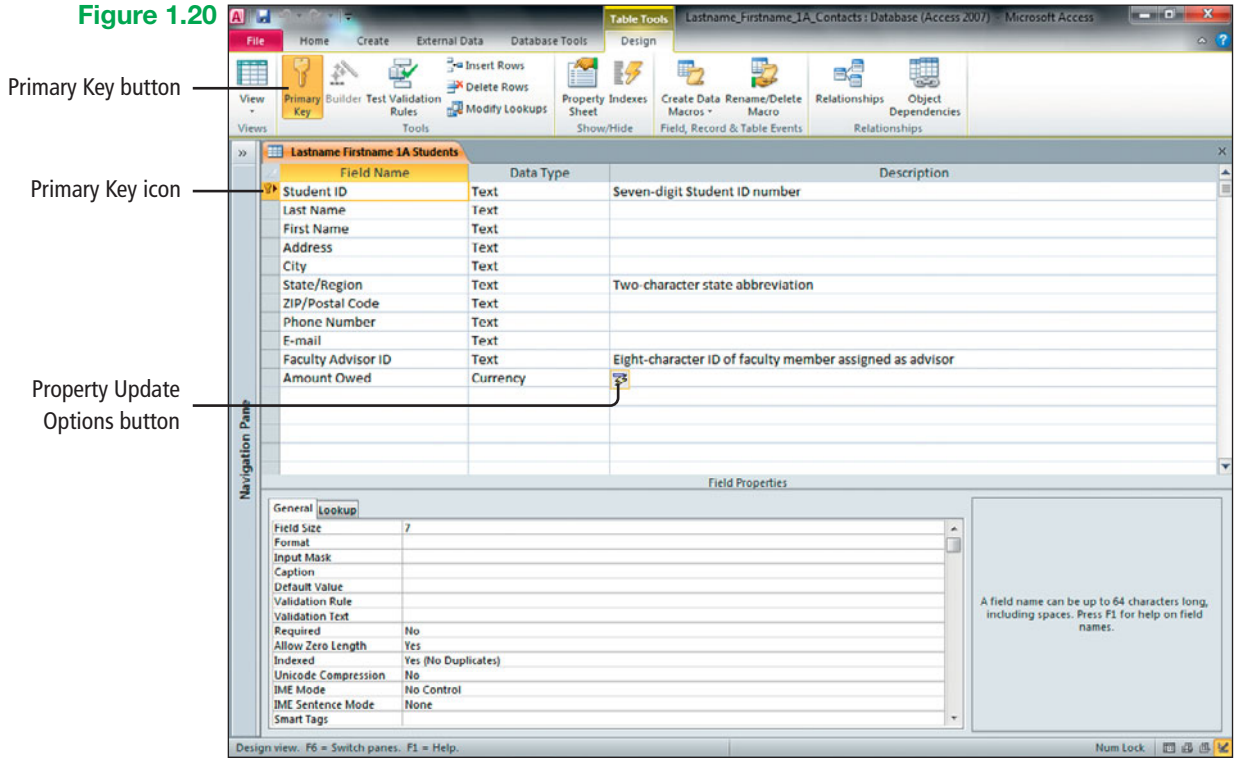
Primary key refers to the field in the table that uniquely identifies a record. For example, in a college registration database, your Student ID number uniquely identifies you—no other student at the college has your exact student number. In the 1A Students table, the Student ID uniquely identifies each student.

When you create a table using the Blank database command, by default Access designates the first field as the primary key field. It is good database design practice to establish a primary key for every table, because doing so ensures that you do not enter the same record more than once. You can imagine the confusion if another student at your college had the same Student ID number as you do.

1 With your table still displayed in Design view, in the **Field Name** column, click in the **Student ID** box. To the left of the box, notice the small icon of a key, as shown in Figure 1.20.

Access automatically designates the first field as the primary key field, but you can set any field as the primary key by clicking in the box to the left of the field name, and then clicking the Primary Key button.

Figure 1.20



2 On the **Design tab**, in the **Views group**, notice that the **View** button contains a picture of a Datasheet, indicating that clicking the button will return you to Datasheet view. Click the **View** button.

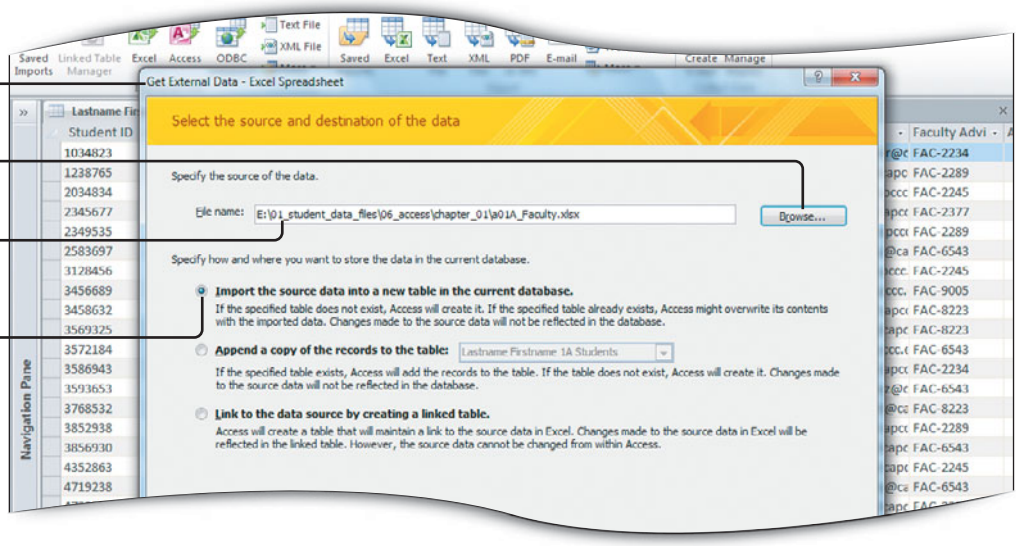
Activity 1.11 | Adding a Second Table to a Database by Importing an Excel Spreadsheet

Many Microsoft Office users track data in an Excel spreadsheet. The sorting and filtering capabilities of Excel are useful for a simple database where all the information resides in one large Excel spreadsheet. However, Excel is limited as a database management tool because it cannot *relate* the information in multiple spreadsheets in a way in which you could ask a question and get a meaningful result. Data in an Excel spreadsheet can easily become an Access table by importing the spreadsheet, because Excel's format of columns and rows is similar to that of an Access table.

1 On the Ribbon, click the **External Data tab**, and then in the **Import & Link group**, click the **Excel** button. In the **Get External Data – Excel Spreadsheet** dialog box, to the right of the **File name** box, click **Browse**.

2 In the **File Open** dialog box, navigate to your student files, and then double-click **a01A_Faculty**. Compare your screen with Figure 1.21.

Figure 1.21



3 Be sure that the **Import the source data into a new table in the current database** option button is selected, and then click **OK**.

The Import Spreadsheet Wizard opens and displays the spreadsheet data.

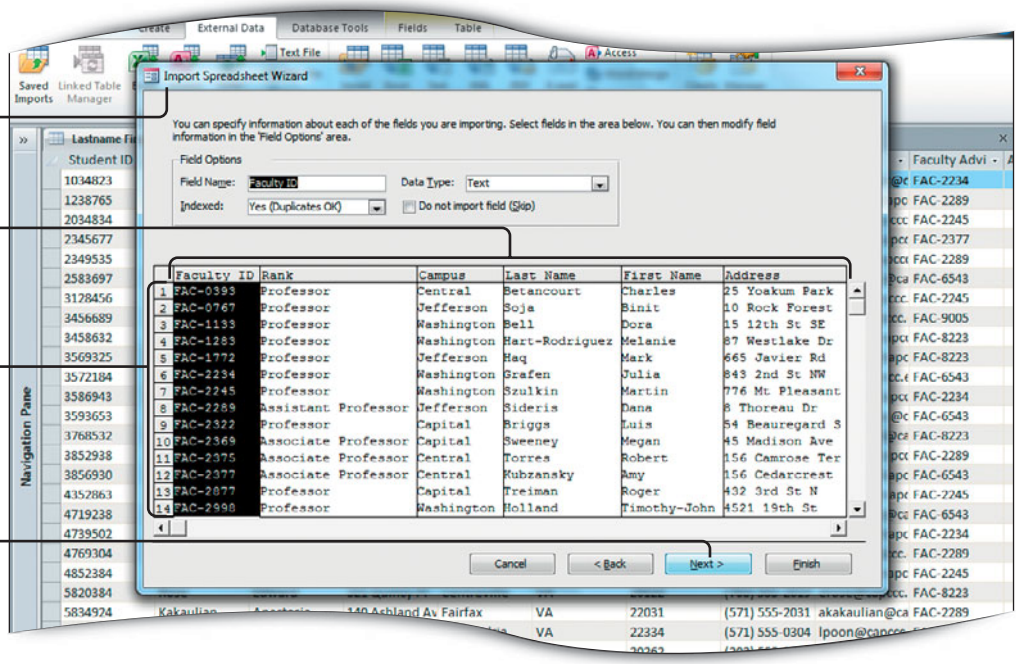
4 In the upper left portion of the **Import Spreadsheet Wizard** dialog box, select the **First Row Contains Column Headings** check box.

The Excel data is framed, indicating that the first row of Excel column titles will become the Access table field names, and the remaining rows will become the individual records in the new Access table.

5 Click **Next**. Notice that the first column—*Faculty ID*—is selected, and in the upper portion of the Wizard, the **Field Name** and the **Data Type** display. Compare your screen with Figure 1.22.

Here you can review and change the field properties for each field (column). You can also identify fields in the spreadsheet that you do not want to import into the Access table by selecting the Do not import field (Skip) check box.

Figure 1.22



6 Click **Next**. In the upper portion of the Wizard, click the **Choose my own primary key** option button, and then be sure that **Faculty ID** displays.

In the new table, Faculty ID will be the primary key. No two faculty members have the same Faculty ID. By default, Access selects the first field as the primary key, but you can click the arrow to select a different field.

7 Click **Next**. In the **Import to Table** box, type **Lastname Firstname 1A Faculty** and then click **Finish**.

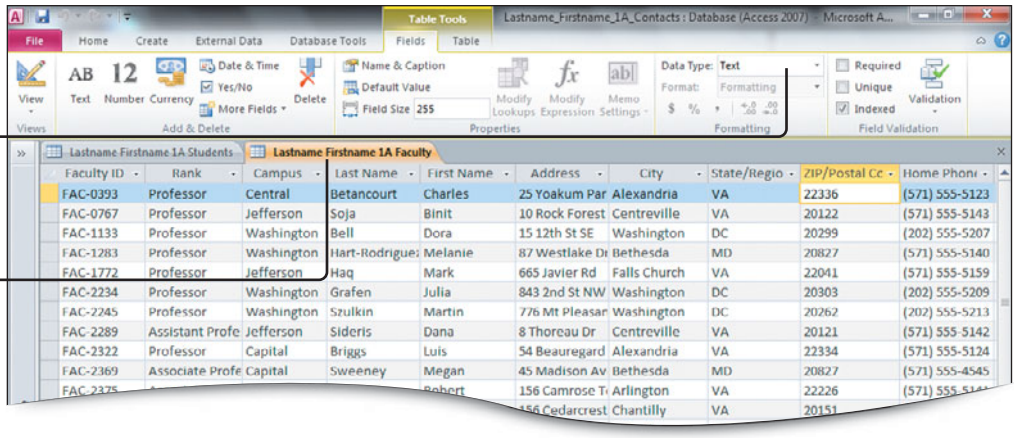
8 In the **Get External Data – Excel Spreadsheet** dialog box, click **Close**, and then **Open** the **Navigation Pane**.

9 In the **Navigation Pane**, double-click your **1A Faculty** table to open it in Datasheet view, and then **Close** the **Navigation Pane**.

10 Click in the **ZIP/Postal Code** field, and then on the Ribbon, click the **Fields tab**. In the **Formatting group**, change the **Data Type** to **Text**. Compare your screen with Figure 1.23.

The data from the *a01A_Faculty* worksheet displays in your *1A Faculty* table in the database. The navigation area indicates that there are 30 records in the table. Recall that if a field contains numbers that are not used in calculations, the data type should be set to Text. When you import data from an Excel spreadsheet, check the data types of all fields to ensure they are correct.

Figure 1.23



Activity 1.12 | Adjusting Column Widths

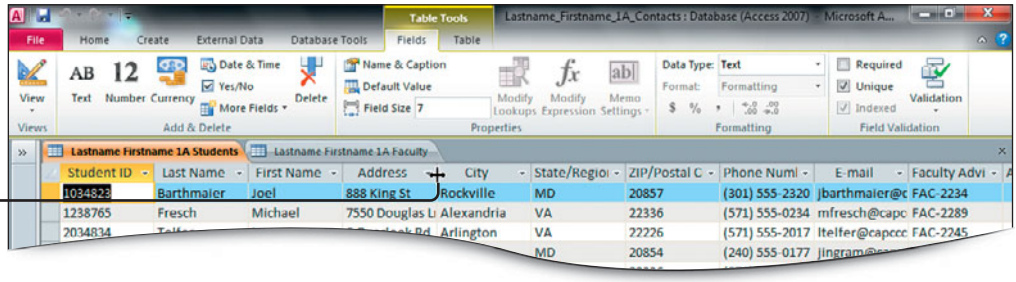
By using techniques similar to those you use for Excel worksheets, you can adjust the widths of Access fields that display in Datasheet view.

1 In the object window, click the **object tab** for your **1A Students** table.

Clicking the object tabs along the top of the object window enables you to display open objects to work with them. All of the columns are the same width regardless of the amount of data in the field, the field size that was set, or the length of the field name. If you print the table as currently displayed, some of the data or field names will not fully print until you adjust the column widths.

2 In the field names row, point to the right edge of the **Address** field to display the ⇿ pointer, and then compare your screen with Figure 1.24.

Figure 1.24



3 With your ⇿ pointer positioned as shown in Figure 1.24, double-click the right edge of the **Address** field.

The column width of the Address field widens to fully display the longest entry in the field. In this manner, the width of a column can be increased or decreased to fit its contents in the same manner as a column in an Excel worksheet. In Access this is referred to as ***Best Fit***.

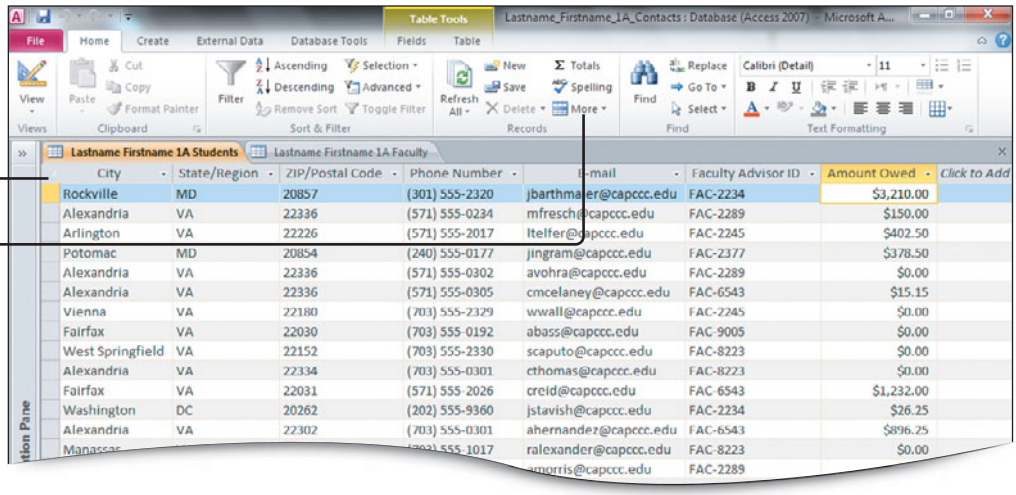
4 Point to the **Phone Number** field name to display the ↓ pointer, right-click to select the entire column and display a shortcut menu, and then click **Field Width**. In the **Column Width** dialog box, click **Best Fit**.

5 Scroll to the right until the last three fields display. Point to the **E-mail** field name to display the ↓ pointer, hold down the left mouse button, and then drag to the right to select this column, the **Faculty Advisor ID** column, and the **Amount Owed** column. By double-clicking the ⇿ pointer on the right boundary of any of the selected columns, or by displaying the Field Width dialog box from the shortcut menu, apply **Best Fit** to the selected columns.

6 Scroll all the way to the left to view the **Student ID** field. To the left of the *Student ID* field name, click the **Select All** button ◢. Click the **Home tab**, and in the **Records group**, click the **More** button. Click **Field Width**, and in the **Column Width** dialog box, click **Best Fit**. In the first record, scroll to the right as necessary, click in the **Amount Owed** field, and then compare your screen with Figure 1.25.

In this manner, you can adjust all of the column widths at one time. After applying Best Fit, be sure to click in any field to remove the selection from all of the records; otherwise, the layout changes will not be saved with the table. Adjusting the width of columns does not change the data in the table's records; it changes only the *display* of the data.

Figure 1.25



Note | Adjusting Column Widths

If you adjust column widths individually, scroll to the right and scroll down to be sure that all of the data displays in all of the fields. Access adjusts the column widths to fit the screen size based on the displayed data. If data is not displayed on the screen when you adjust a column width, the column may not be adjusted adequately to display all of the data in the field. For that reason, select all of the columns and apply Best Fit to be sure that all of the data displays when scrolling or printing. Click in any field after applying Best Fit to remove the selection, and then save the table before performing other tasks.

7 On the Quick Access Toolbar, click the **Save** button to save the table design changes—changing the column widths.

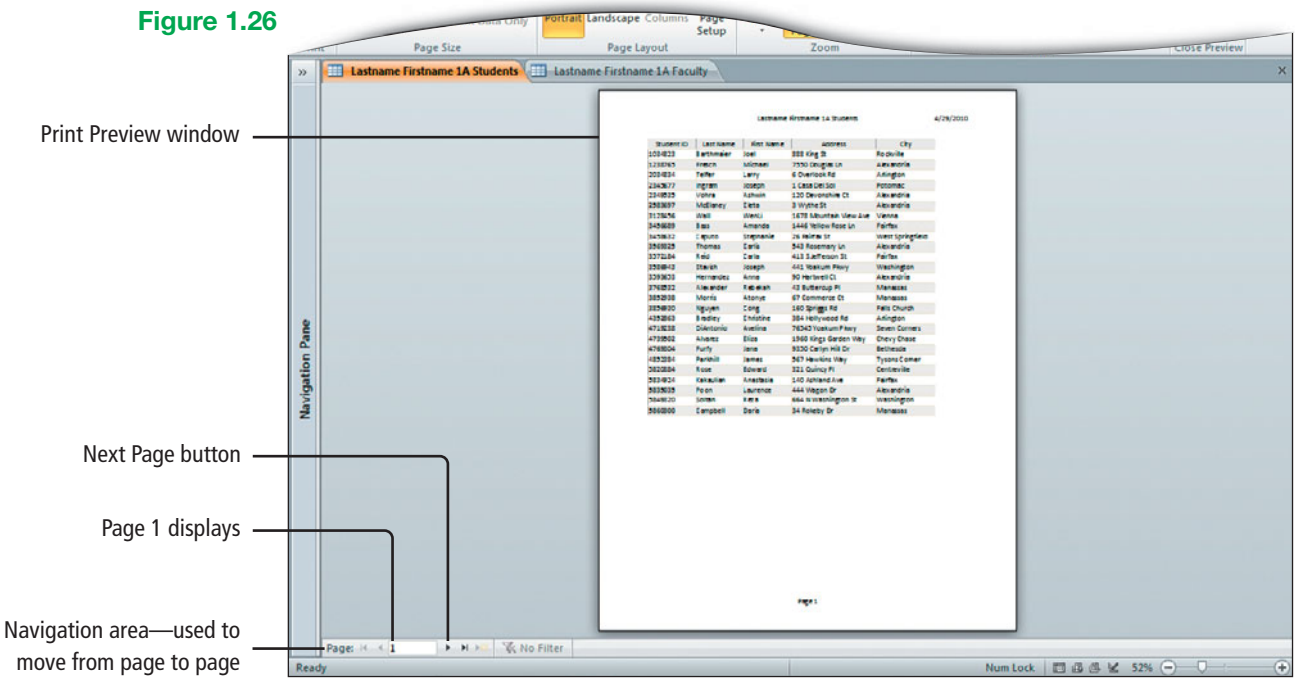
If you do not save the table after making design changes, Access will prompt you to save when you close the table.

Activity 1.13 | Printing a Table

Although a printed table does not look as professional as a printed report, there are times when you will want to print a table. For example, you may need a quick reference or want to proofread the data that has been entered.

1 On the Ribbon, click the **File tab** to display **Backstage** view, click the **Print** tab, click **Print Preview**, and then compare your screen with Figure 1.26.

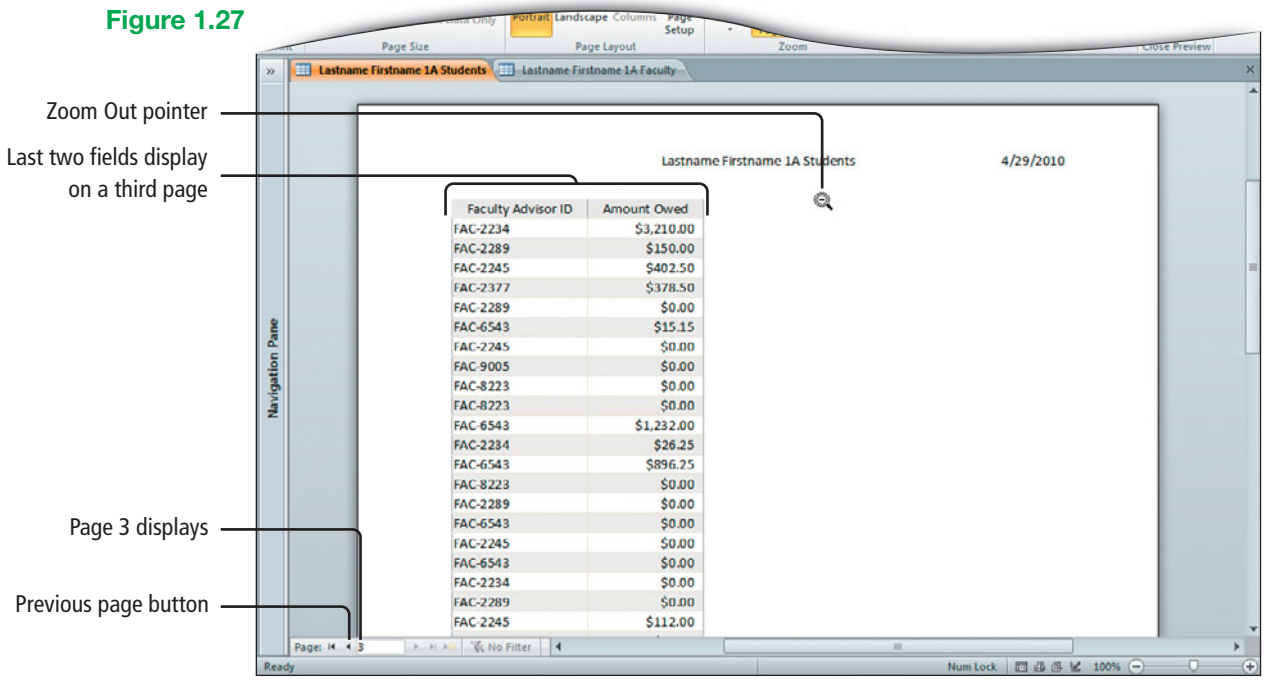
Figure 1.26



2 In the lower left corner, click the **Next Page** button two times. Point to the top of the page to display the pointer, click one time to zoom in, and then compare your screen with Figure 1.27.

The display enlarges, and the Zoom Out pointer displays. The third page of the table displays the last two field columns. The Next Page button is dimmed, indicating there are no more pages. The Previous Page button is darker, indicating that pages exist before this page.

Figure 1.27



Another Way

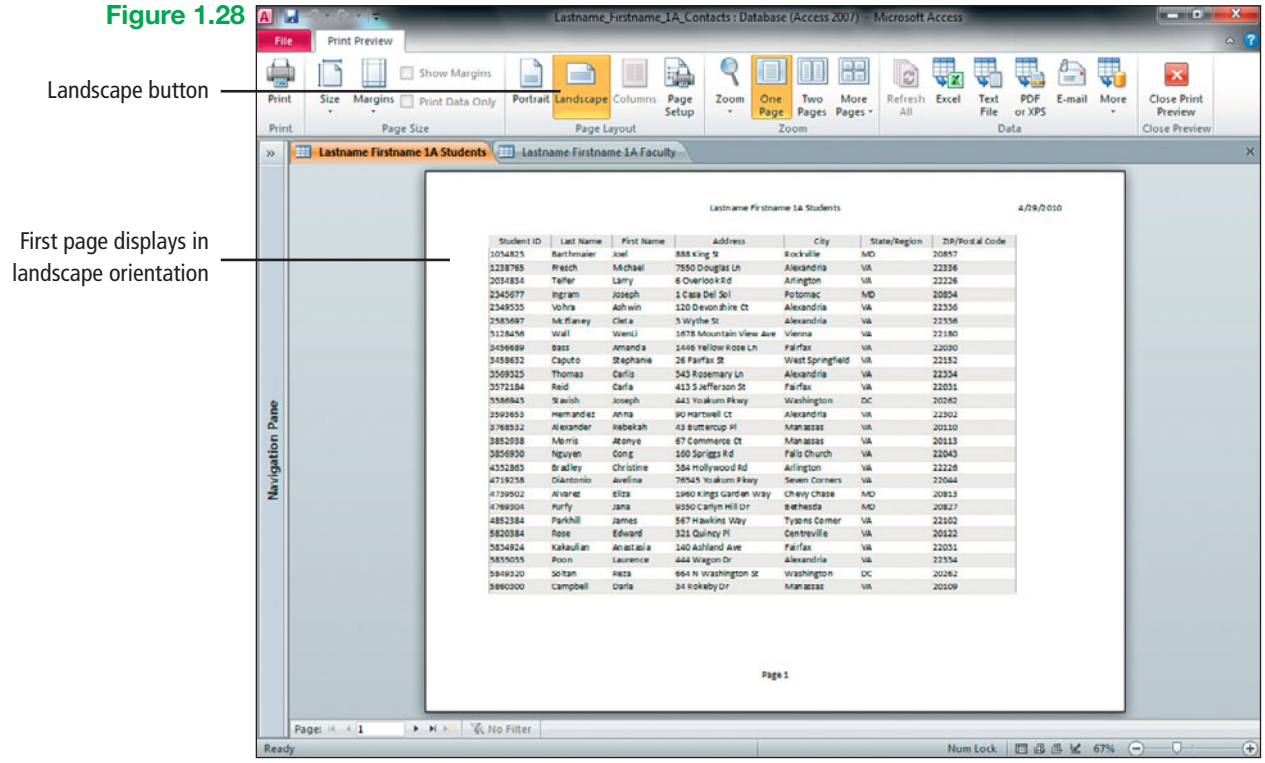
Click the pointer to zoom back to Fit to Window view.

3 On the Ribbon, in the **Zoom group**, click the **Zoom** button to zoom back to Fit to Window view.

4 In the **Page Layout group**, click the **Landscape** button. In the navigation area, click the **Previous Page** button to display **Page 1**, and then compare your screen with Figure 1.28.

The orientation of the printout changes, the table name and current date display at the top of the page, and the page number displays at the bottom. The change in orientation from portrait to landscape is not saved with the table. Each time you print, you must check the margins, page orientation, and other print parameters to print as you intend.

Figure 1.28

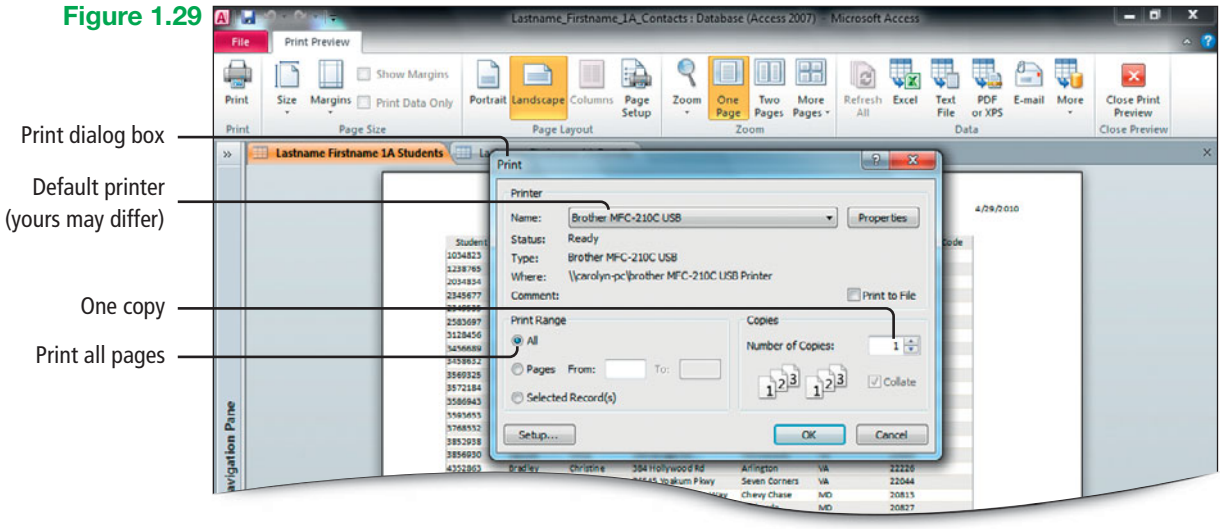


Note | Headers and Footers in Access Objects

The headers and footers in Access tables and queries are controlled by default settings; you cannot add additional information or edit the information. The object name displays in the center of the header area with the date on the right—that is why adding your own name to the object name is helpful to identify your paper or electronic results. The page number displays in the center of the footer area. The headers and footers in Access reports and forms, however, are more flexible; you can add to and edit the information.

5 On the **Print Preview tab**, in the **Print group**, click the **Print** button. In the **Print** dialog box, under **Print Range**, verify that the **All** option button is selected. Under **Copies**, verify that the **Number of Copies** is **1**. Compare your screen with Figure 1.29.

Figure 1.29



6 Determine how your instructor wants you to submit your work for this project—on paper or electronically. If submitting electronically, determine if, in addition to submitting your Access database, you are to create and submit electronic printouts of individual database objects.

7 To print on paper, in the **Print** dialog box, click **OK**, and then in the **Close Preview group**, click the **Close Print Preview** button. This printout will have two pages. To create an electronic PDF printout of this table object, in the Print dialog box, click Cancel, and then follow the steps in the following Note—or follow the specific directions provided by your instructor.

Note | To Create a PDF Electronic Printout of an Access Object

Display the object (table, report, and so on) in Print Preview and adjust margins and orientation as desired. On the Print Preview tab, in the Data group, click the PDF or XPS button. In the Publish as PDF or XPS dialog box, navigate to your chapter folder. Use the default file name, or follow your instructor's directions to name the object. In the lower right corner, click Publish—the default setting is PDF. If necessary, close the Adobe Acrobat/Reader window and the Export-PDF dialog box. Click the Close Print Preview button; your electronic printout is saved.

8 At the far right edge of the object window, click the **Close Object** button to close the **1A Students** table.

9 With your **1A Faculty** table displayed, to the left of the **Faculty ID** field name, click the **Select All** button to select all of the columns. On the **Home tab**, in the **Records group**, click the **More** button. Click **Field Width**, and in the **Column Width** dialog box, click **Best Fit**. Click in any field in the table to remove the selection, and then **Save** the table.

10 Display the table in **Print Preview**. Change the **Orientation** to **Landscape**. If directed to do so by your instructor, create a paper or electronic printout, and then **Close Print Preview**—two pages result.

11 Click the **Close Object** button .

All of your database objects—the *1A Students* table and the *1A Faculty* table—are closed; the object window is empty.

Objective 4 | Create and Use a Query, Form, and Report

A ***query*** is a database object that retrieves specific data from one or more database objects—either tables or other queries—and then, in a single datasheet, displays only the data that you specify. Because the word *query* means *to ask a question*, think of a query as a question formed in a manner that Access can answer.

A ***form*** is an Access object with which you can enter data, edit data, or display data from a table or a query. In a form, the fields are laid out in an attractive format on the screen, which makes working with the database easier for those who must enter and look up data.

A ***report*** is a database object that displays the fields and records from a table or a query in an easy-to-read format suitable for printing. Create reports to *summarize* information in a database in a professional-looking manner.

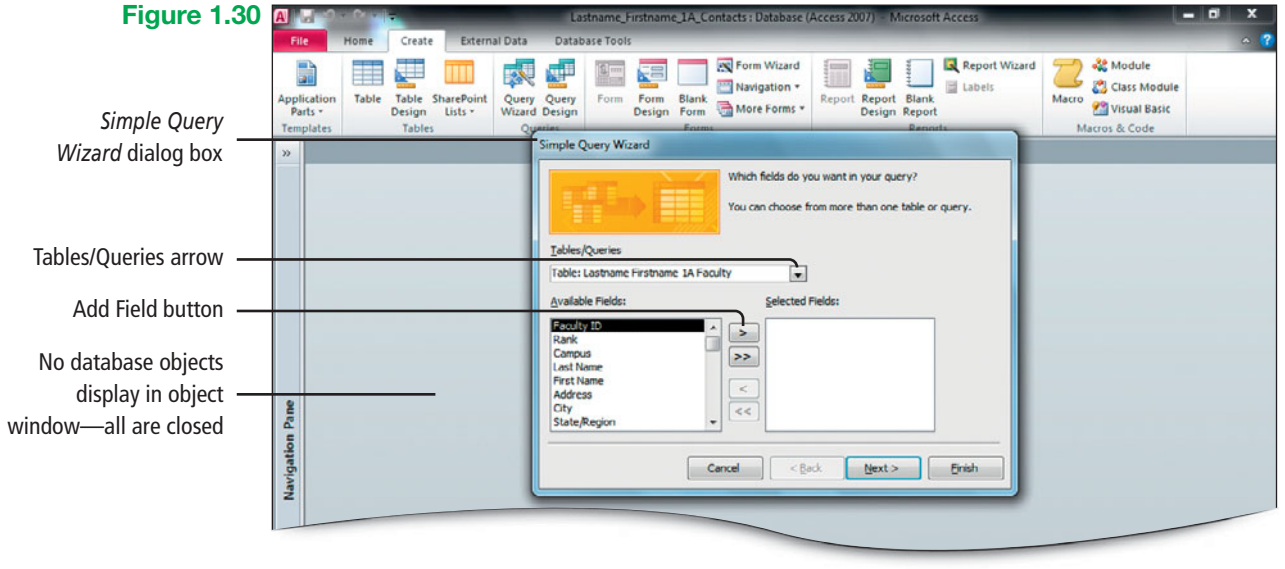
Activity 1.14 | Using the Simple Query Wizard to Create a Query

A ***select query*** is one type of Access query. A select query, also called a ***simple select query***, retrieves (selects) data from one or more tables or queries and then displays the selected data in a datasheet. A select query creates subsets of data to answer specific questions; for example, *Which students live in Arlington, VA?*

The objects from which a query selects its data are referred to as the query's ***data source***. In this activity, you will create a simple select query using a ***wizard***. A wizard is a feature in Microsoft Office programs that walks you step by step through a process. The process involves choosing the data source, and then indicating the fields you want to include in the query result. The query—the question that you want to ask—is *What is the name, complete mailing address, and Student ID of every student?*

1 Click the **Create tab**, and then in the **Queries group**, click the **Query Wizard** button. In the **New Query** dialog box, click **Simple Query Wizard**, and then click **OK**. Compare your screen with Figure 1.30.

Figure 1.30



2 Click the **Tables/Queries arrow**, and then click your **Table: 1A Students**.

To create a query, first choose the data source—the object from which to select data. The name and complete mailing address of every student is stored in the 1A Students table, so this table will be your data source.

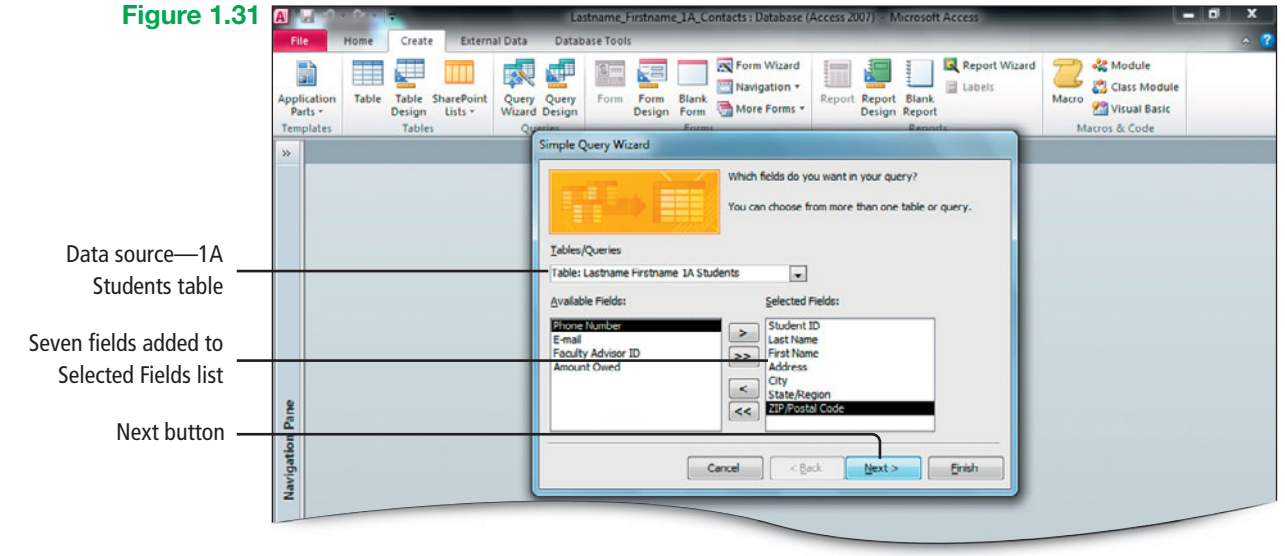
3 Under **Available Fields**, click **Student ID**, and then click the **Add Field** button > to move the field to the **Selected Fields** list on the right. Point to the **Last Name** field, and then double-click to add the field to the **Selected Fields** list.

Use either method to add fields to the Selected Fields list. Fields can be added in any order.

4 By using the **Add Field** button > or by double-clicking the field name, add the following fields to the **Selected Fields** list: **First Name**, **Address**, **City**, **State/Region**, and **ZIP/Postal Code**. Compare your screen with Figure 1.31.

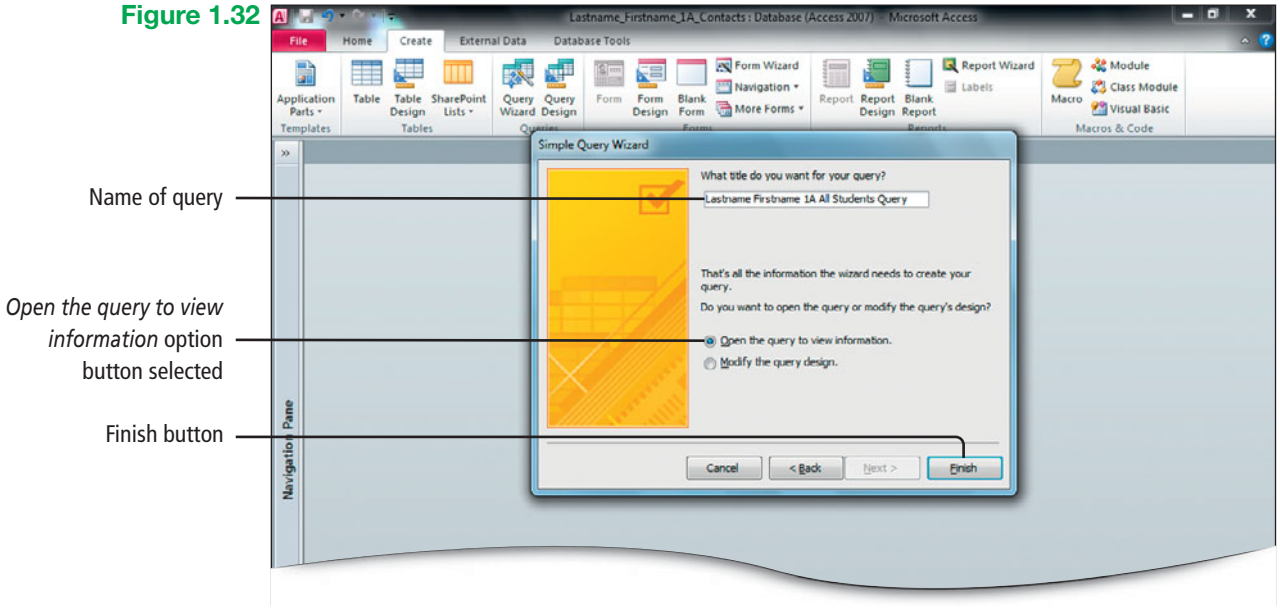
Choosing these seven fields will answer the question, *What is the Student ID, name, and address of every student?*

Figure 1.31



5 Click **Next**. In the **Simple Query Wizard** dialog box, click in the **What title do you want for your query?** box. Edit as necessary so that the query name, using your own last and first name, is **Lastname Firstname 1A All Students Query** and then compare your screen with Figure 1.32.

Figure 1.32



6 Click **Finish**.

Access ***runs*** the query—performs the actions indicated in your query design by searching the records in the data source you selected, and then finding the records that match specified criteria. The records that match the criteria display in a datasheet. A select query *selects*—pulls out and displays—*only* the information from the data source that you requested, including the specified fields.

In the object window, Access displays every student record in Datasheet view, but displays *only* the seven fields that you moved to the Selected Fields list in the Simple Query Wizard dialog box.

7 If necessary, apply Best Fit to the columns and then Save the query. Display the query in **Print Preview**. Change the **Orientation** to **Landscape**, and then create a paper or electronic printout as instructed. **Close** the **Print Preview**.

8 In the object window, click the **Close Object** button to close the query.

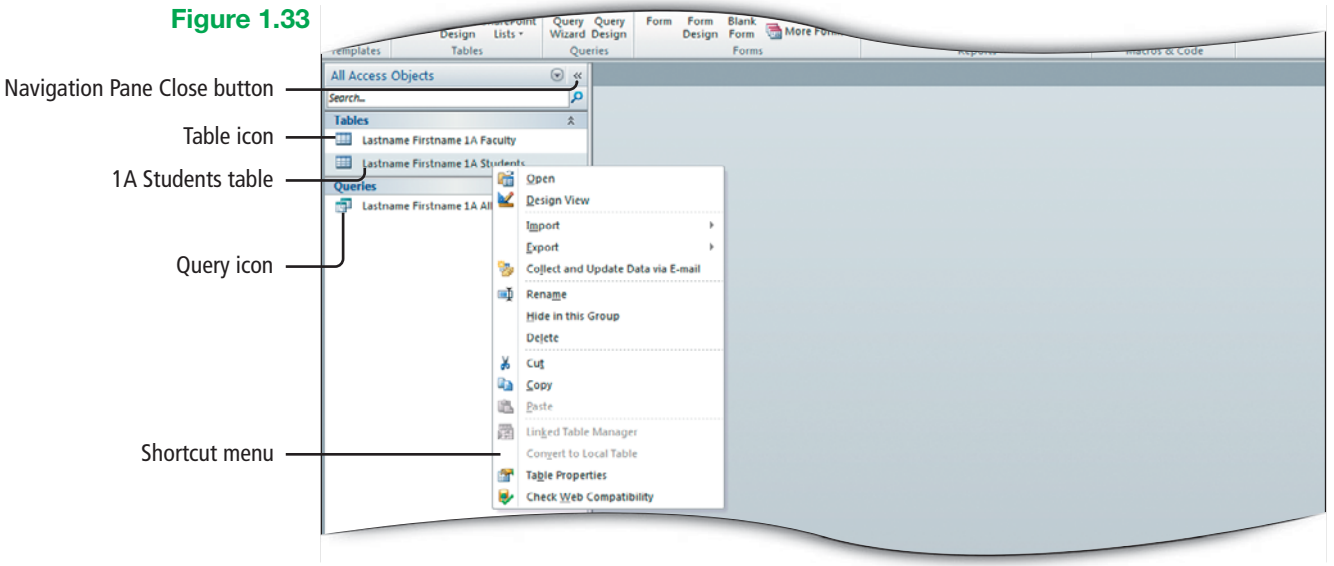
Activity 1.15 | Creating and Printing a Form

One type of Access form displays only one record in the database at a time. Such a form is useful not only to the individual who performs the data entry—typing in 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 table.

The Form command on the Ribbon creates a form that displays all of the *fields* from the underlying data source (table)—one record at a time. You can use this new form immediately, or you can modify it. Records that you create or edit in a form are automatically added to or updated in the underlying table or tables.

1 **Open** » the **Navigation Pane**. Increase the width of the **Navigation Pane** so that all object names display fully. Notice that a table displays a datasheet icon, and a query displays an icon of two overlapping datasheets. Right-click your **1A Students** table to display a menu as shown in Figure 1.33.

Figure 1.33



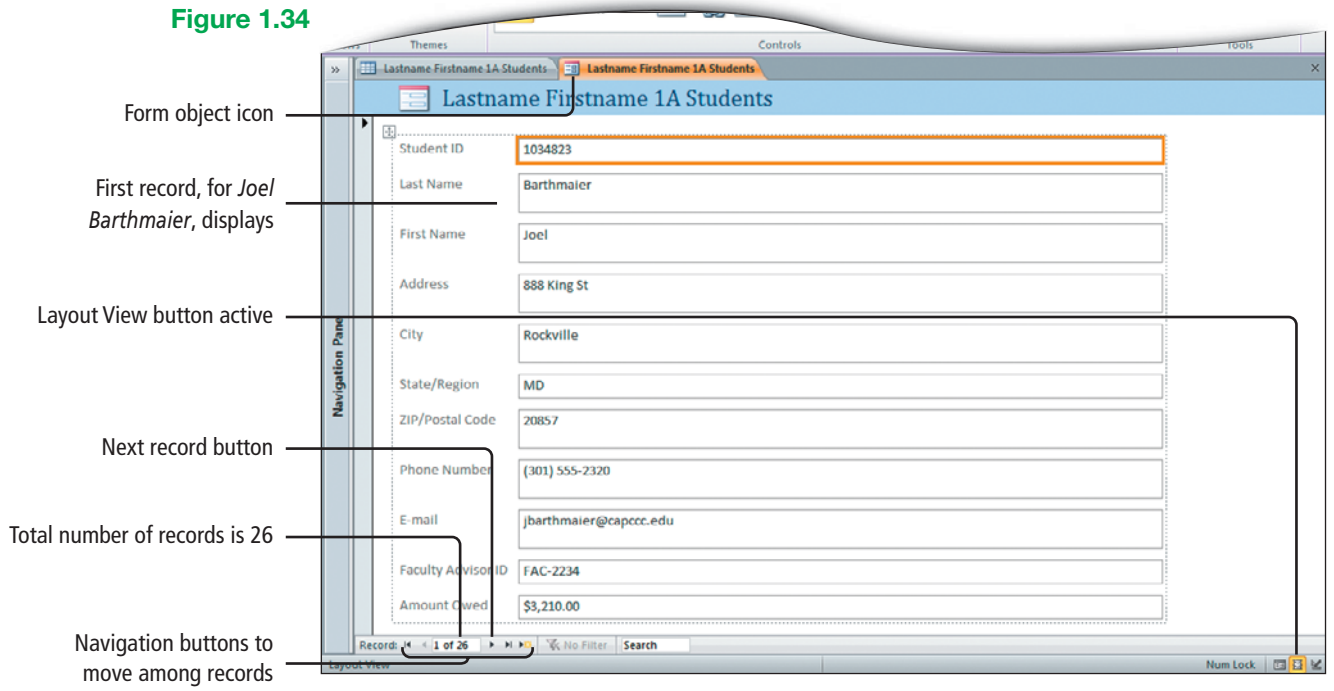
2 On the shortcut menu, click **Open** to display the table in the object window, and then **Close** « the **Navigation Pane** to maximize your object space.

3 Scroll to the right, and notice that there are 11 fields in the table. On the **Create tab**, in the **Forms group**, click the **Form** button. Compare your screen with Figure 1.34.

Access creates a form based on the currently selected object—the 1A Students table. Access creates the form in a simple top-to-bottom format, with all 11 fields in the record lined up in a single column.

The form displays in ***Layout view***—the Access view in which you can make changes to a form or to a report while the object is open. Each field displays the data for the first student record in the table—*Joel Barthmaier*.

Figure 1.34



4 At the right edge of the status bar, notice that the **Layout View** button is active, indicating that the form is displayed in Layout view.

Another Way

On the Home tab, in the Views group, click the View button, which displays an icon of a form.

5 At the right edge of the status bar, click the **Form View** button.

In ***Form view***, you can view the records, but you cannot change the layout or design of the form.

6 In the navigation area, click the **Next record** button three times. The fourth record—for *Joseph Ingram*—displays.

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

7 **Save** the form with the default name—*Lastname Firstname 1A Students*. Along the left edge of the record, under ▶, click anywhere in the narrow gray bar—the ***record selector bar***—to select only the record for *Joseph Ingram*. Notice that the bar turns black, indicating that the record is selected.

8 To print the form for *Joseph Ingram* only, click the **File tab**, and then click **Print**—do *not* display Print Preview. Instead, click **Print**. In the **Print** dialog box, in the lower left corner, click **Setup**. Click the **Columns tab**, change the **Width** to **7.5** so that the form prints on one page, and then click **OK**. The maximum column width that you can enter is dependent upon the printer that is installed on your system. In the lower left corner of the **Print** dialog box, click the **Selected Record(s)** option button, and then click **OK**.

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 8 above, and then in the Print dialog box, click Cancel. On the left edge of the form, click 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. Navigate to your chapter folder, and 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.

9 **Close** the form. Notice that your **1A Students** table remains open.

Activity 1.16 | Creating, Modifying, and Printing a Report

1 **Open** the **Navigation Pane**, and then open your **1A Faculty** table by double-clicking the table name or by right-clicking and clicking Open from the shortcut menu. **Close** the **Navigation Pane**.

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

When you click the Report button, Access generates the report in Layout view and includes all of the fields and all of the records in the table, and does so in a format suitable for printing. Dotted lines indicate how the report would break across pages if you print it. In Layout view, you can make quick changes to the report layout.

Another Way

Right-click the field. From the shortcut menu, click Select Entire Column, and then press Del.

3 Click the **Faculty ID** field name, and then on the Ribbon, click the **Arrange tab**. In the **Rows & Columns group**, click the **Select Column** button, and then press Del. Using the same technique, delete the **Rank** field.

The Faculty ID and Rank fields and data are deleted, and the report readjusts the fields.

4 Click the **Address** field name, and then use the scroll bar at the bottom of the screen to scroll to the right to display the **Mobile Phone** field; be careful not to click in the report. Hold down Shift and then click the **Mobile Phone** field name to select all of the fields from *Address* through *Mobile Phone*. With all the field names selected—surrounded by a colored border—in the **Row & Columns group**, click the **Select Column** button, and then press Del.

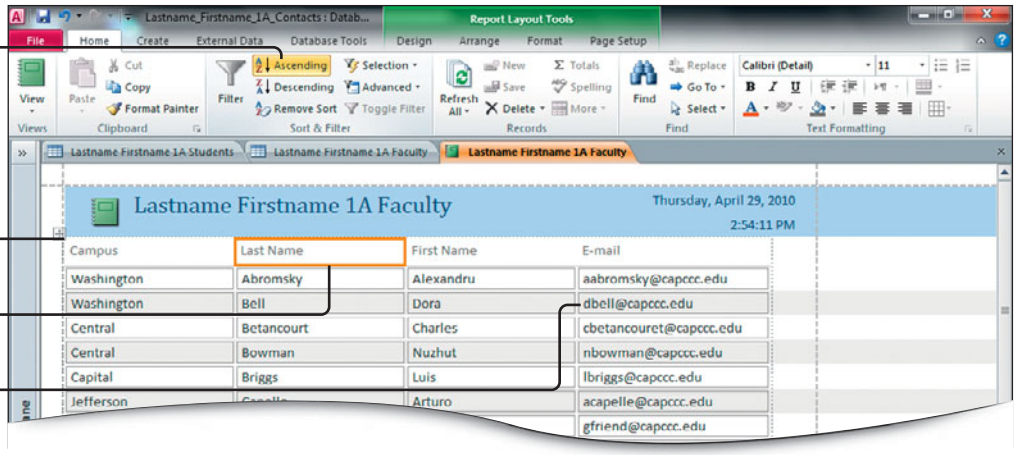
Use this technique to select and delete multiple columns in Layout view.

5 Scroll to the left, and notice that you can see all of the remaining fields. In any record, click in the **E-mail** field. Point to the right edge of the field box to display the ⇿ pointer. Drag to the right slightly to increase the width of the field so that all E-mail addresses display on one line.

6 Click the **Last Name** field name. On the Ribbon, click the **Home tab**. In the **Sort & Filter group**, click the **Ascending** button. Compare your screen with Figure 1.35.

By default, tables are sorted in ascending order by the primary key field, which is the Faculty ID field. You can change the default and sort any field in either ascending order or descending order. The sort order does not change in the underlying table, only in the report.

Figure 1.35

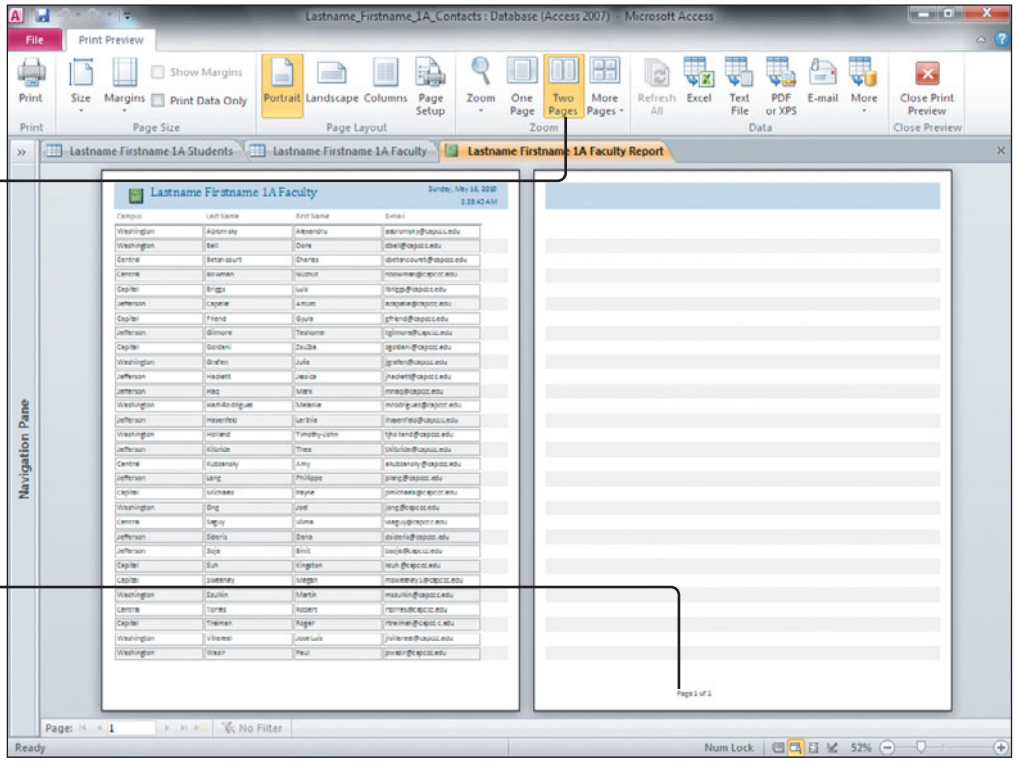


7 Click the **Save** button 💾. In the **Report Name** box, add **Report** to the end of the suggested name, and then click **OK**.

8 Display the report in **Print Preview**. In the **Zoom group**, click the **Two Pages** button, and then compare your screen with Figure 1.36.

The report will print on two pages because the page number at the bottom of the report is located beyond the right margin of the report.

Figure 1.36



9 In the **Close Preview group**, click the **Close Print Preview button**. Scroll down to the bottom of the report, and then scroll to the right to display the page number. Click the page number—**Page 1 of 1**—and then press Del.

10 Display the report in **Print Preview** and notice that the report will print on one page. In the **Zoom group**, click the **One Page** button. **Save** the changes to the design of the report, and then create a paper or electronic printout as instructed. At the right end of the Ribbon, click the **Close Print Preview** button.

The default margins of a report created with the Report tool are 0.25 inch. Some printers require a greater margin so your printed report may result in two pages—you will learn to adjust this later. Also, if a printer is not installed on your system, the report may print on two pages.

11 Along the top of the object window, right-click any object tab, and then click **Close All** to close all of the open objects and leave the object window empty.

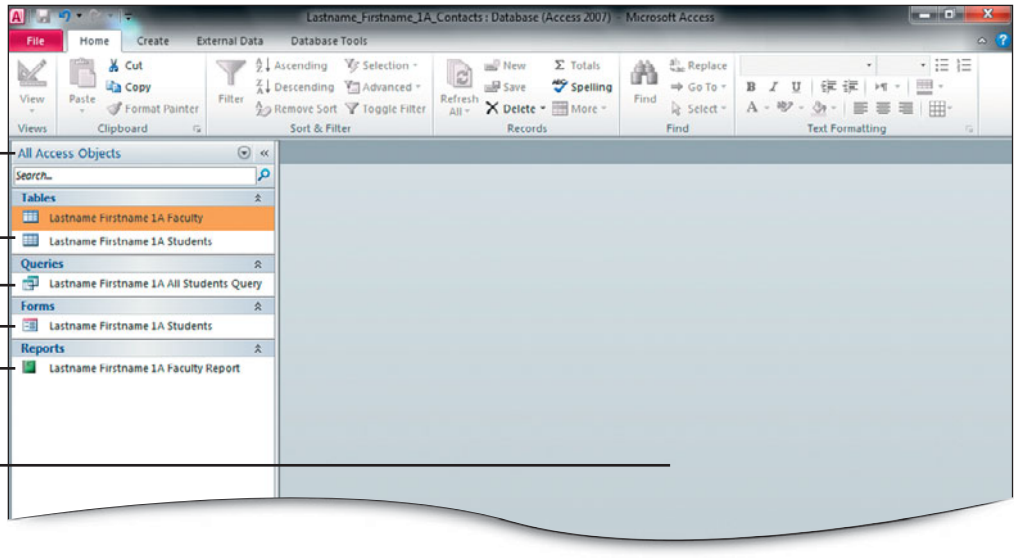
Objective 5 | Save and Close a Database

When you close an Access table, any changes made to the records are saved automatically. If you change the design of the table or change the layout of the Datasheet view, such as adjusting the column widths, you will be prompted to save the design changes. At the end of your Access session, close your database and exit Access. If the Navigation Pane is open when you close Access, it will display when you reopen the database.

Activity 1.17 | Closing and Saving a Database

1 **Open** the **Navigation Pane**. Notice that your report object displays with a green report icon. Compare your screen with Figure 1.37.

Figure 1.37



Another Way
In the upper right corner of the window, click the Close button.

2 Display **Backstage** view, click **Close Database**, and then click **Exit**. As directed by your instructor, submit your database and the five paper or electronic printouts—two tables, one query, one form, and one report—that are the results of this project.

End You have completed Project 1A

Project 1B Student Workshops Database

myitlab Project 1B Training

Project Activities

In Activities 1.18 through 1.23, you will assist Dr. Kirsten McCarty, Vice President of Student Services, by creating a database to store information about student workshops presented by Capital Cities Community College. You will use a database template that tracks event information, add workshop information to the database, and then print the results. Your completed report and table will look similar to Figure 1.38.

Project Files

For Project 1B, you will need the following files:

New Access database using the Events template
a01B_Workshops (Excel workbook)

You will save your database as:

Lastname_Firstname_1B_Student_Workshops

Project Results

Lastname Firstname 1B Workshop Locations 4/29/2010

Room ID	Campus/Location	Room	Seats	Room Arrangement	Equipment
CAP-01	Capital Campus	C202	50	Lecture/Classroom	Smart Board
CEN-01	Central Campus	H248	20	U-shaped	White Board
JEFF-01	Jefferson Campus	J123	150	Theater	Computer Projector, Surround Sound, & Microphones
JEFF-02	Jefferson Campus	A15	25	U-shaped	25 Computers, Projector
WASH-01	Washington Campus	A15	35	Lecture/Classroom	Computer Projector

Lastname Firstname All Events Thursday, April 29, 2010 4:33:47 PM

Title	Start Time	End Time	Location
Your Cyber Reputation	3/9/2016 7:00:00 PM	3/9/2016 9:00:00 PM	Jefferson Campus
Internet Safety			
Writing a Research Paper	3/10/2016 4:00:00 PM	3/10/2016 6:00:00 PM	Washington Campu
Computer Skills			
Resume Writing	3/18/2016 2:00:00 PM	3/18/2016 4:00:00 PM	Capital Campus
Job Skills			
Careers in the Legal Profession	3/19/2016 2:00:00 PM	3/19/2016 4:00:00 PM	Central Campus
Careers			
Transferring to a 4-Year University	4/8/2016 11:00:00 AM	4/8/2016 12:30:00 PM	Jefferson Campus
Transfer			
Financial Aid	4/14/2016 7:00:00 PM	4/14/2016 8:30:00 PM	Central Campus
CC Info			
Sensitivity Training	4/15/2016 8:00:00 AM	4/15/2016 9:00:00 AM	Capital Campus
Human Behavior			
Preparing for the Job Interview	4/15/2016 12:30:00 PM	4/15/2016 2:00:00 PM	Capital Campus
Job Skills			
Class Note Taking	4/18/2016 12:30:00 PM	4/18/2016 1:30:00 PM	Central Campus
Study Skills			
Managing Time and Stress	4/18/2016 6:00:00 PM	4/18/2016 7:30:00 PM	Washington Campu
Study Skills			
Work Smart at Your Computer	4/20/2016 10:00:00 AM	4/20/2016 11:00:00 AM	Jefferson Campus
Computer Skills			
Preparing for Tests	4/20/2016 4:00:00 PM	4/20/2016 5:00:00 PM	Central Campus
Study Skills			

Page 1 of 1

Figure 1.38
Project 1B Student Workshops

Objective 6 | Create a Database Using a Template

A ***database template*** contains pre-built tables, queries, forms, and reports to perform a specific task, such as tracking a large number of events. For example, your college may hold events such as athletic contests, plays, lectures, concerts, and club meetings. Using a predefined template, your college Activities Director can quickly create a database to manage these events. The advantage of using a template to start a new database is that you do not have to create the objects—all you need to do is enter your data and modify the pre-built objects to suit your needs.

The purpose of the database in this project is to track the student workshops offered by Capital Cities Community College. The questions to be answered might include:

What workshops will be offered and when will they be offered?

In what rooms and campus locations will the workshops be held?

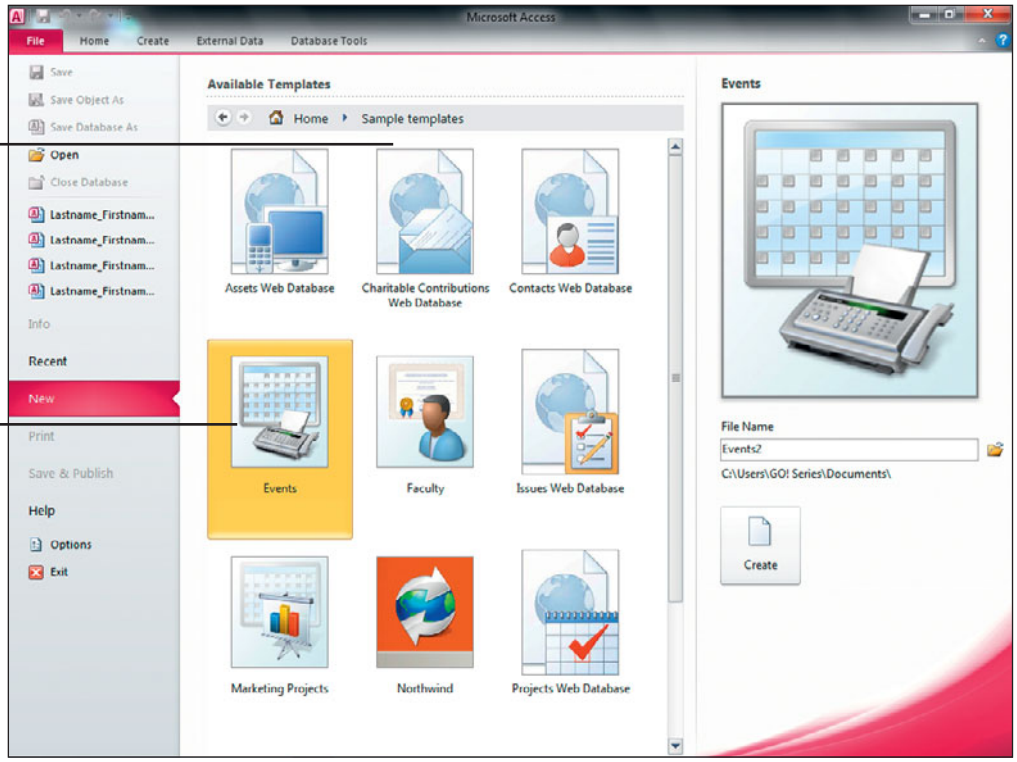
Which workshop locations have a computer projector for PowerPoint presentations?

Activity 1.18 | Creating a New Database Using a Template

1 **Start** Access. Under **Available Templates**, click **Sample templates**. If necessary, scroll down to locate and then click **Events**. Compare your screen with Figure 1.39.

Sample templates are stored on your computer; they are included with the Access program.

Figure 1.39



2 On the right side of the screen, to the right of the **File Name** box, click the **Browse** button, and then navigate to your **Access Chapter 1** folder.

3 At the bottom of the **File New Database** dialog box, select the text in the **File name** box. Using your own name, type **Lastname_Firstname_1B_Student_Workshops** and then press Enter.

4 In the lower right corner of your screen, click the **Create** button.

Access creates the *1B Student Workshops* database, and the database name displays in the title bar. A predesigned *form*—Event List—displays in the object window. Although you can enter events for any date, when you open the database in the future, the Event List will display only those events for the current date and future dates.

5 Under the Ribbon, on the **Message Bar**, a Security Warning displays. On the **Message Bar**, click the **Enable Content** button.

Databases provided by Microsoft are safe to use on your computer.

Activity 1.19 | Building a Table by Entering Records in a Multiple Items Form

The purpose of a form is to simplify the entry of data into a table—either for you or for others who enter data. In Project 1A, you created a simple form that enabled you to display or enter records in a table one record at a time. The Events template creates a ***Multiple Items form***, a form that enables you to display or enter *multiple* records in a table, but still with an easier and simplified layout than typing directly into the table itself.

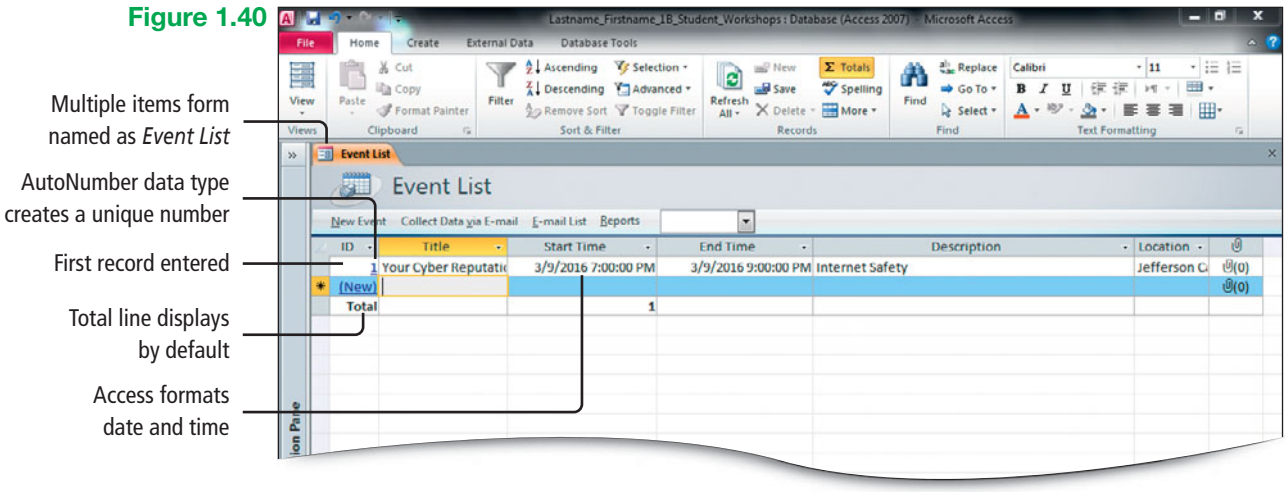
1 Click in the first empty **Title** field. Type **Your Cyber Reputation** and then press Tab. In the **Start Time** field, type **3/9/16 7p** and then press Tab.

Access formats the date and time. As you enter dates and times, a small calendar displays to the right of the field, which you can click to select a date instead of typing.

2 In the **End Time** field, type **3/9/16 9p** and then press Tab. In the **Description** field, type **Internet Safety** and then press Tab. In the **Location** field, type **Jefferson Campus** and then press Tab three times to move to the **Title** field in the new record row. Compare your screen with Figure 1.40.

Because the workshops have no unique value, Access uses the AutoNumber data type of the ID field to assign a unique, sequential number to each record. In the navigation area, each record is identified as a task, rather than a record or page.

Figure 1.40



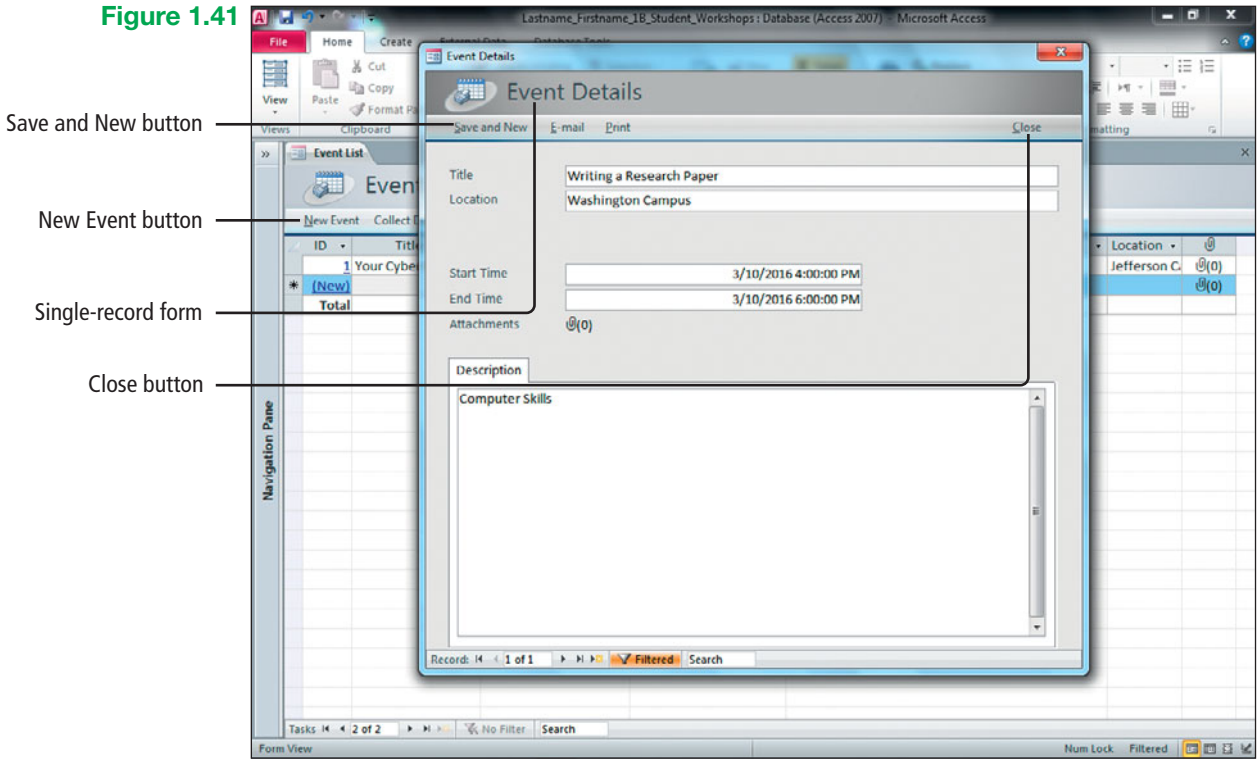
3 Directly above the field names row, click **New Event**.

A ***single-record form*** displays, similar to the simple form you created in Project 1A. A single-record form enables you to display or enter one record at a time into a table.

4 Using Tab to move from field to field, enter the following record—press Tab three times to move from the **End Time** field to the **Description** field. Compare your screen with Figure 1.41.

Title	Location	Start Time	End Time	Description
Writing a Research Paper	**Washington Campus**	**3/10/16 4p**	**3/10/16 6p**	**Computer Skills**

Figure 1.41



5 In the upper right corner of the single-record form, click **Close**, and notice that the new record displays in the Multiple Items form.

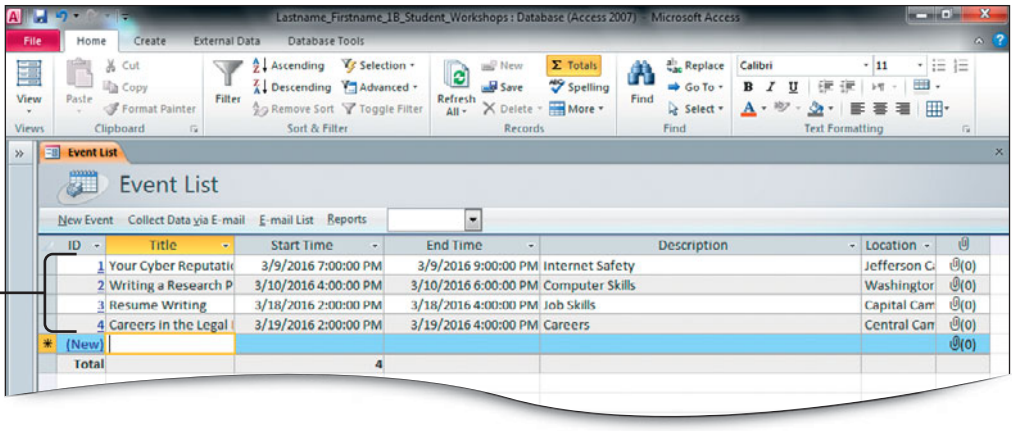
6 Using either the rows on the Multiple Items form or the New Event single-record form, enter the following records, and then compare your screen with Figure 1.42.

ID	Title	Start Time	End Time	Description	Location
3	**Resume Writing**	**3/18/16 2p**	**3/18/16 4p**	**Job Skills**	**Capital Campus**
4	**Careers in the Legal Profession**	**3/19/16 2p**	**3/19/16 4p**	**Careers**	**Central Campus**

Alert! | Does a Single Record Form Open?

In the Multiple Items form, pressing Enter three times at the end of a row to begin a new record may display the single-record New Event form. If you prefer to use the Multiple Items form, close the single-record form and continue entering records, using the Tab key to move from field to field.

Figure 1.42



7 In the upper right corner of the object window, click **Close** to close the **Event List** form.

8 On the Ribbon, click the **External Data tab**. In the **Import & Link group**, click the **Excel** button.

Recall that you can populate a table by importing data from an Excel workbook.

9 In the **Get External Data – Excel Spreadsheet** dialog box, click the **Browse** button. Navigate to your student files, and then double-click **a01B_Workshops**.

10 Click the second option button—**Append a copy of the records to the table**—and then click **OK**.

11 Click **Next**, click **Finish**, and then **Close** the dialog box.

12 **Open** the **Navigation Pane**. Double-click **Event List** to open the form that displays data stored in the Events table, and then **Close** the **Navigation Pane**.

13 To the left of the **ID** field name, click the **Select All** button to select all of the columns.

Another Way

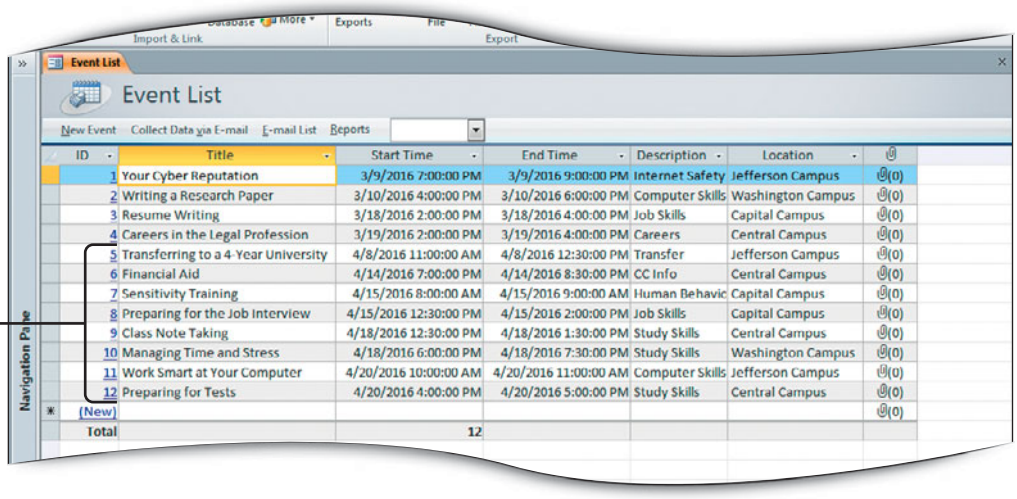
With the columns selected, in the field heading row, point to the right edge of any of the selected columns, and then double-click to apply Best Fit to all of the selected columns.

14 In the field names row, point to any of the selected field names, right-click, and then click **Field Width**. In the **Column Width** dialog box, click **Best Fit**. Notice that the widths of all of the columns are adjusted to accommodate the longest entry in the column.

15 In the first record, click in the **Title** field to deselect the columns. **Save** the form, and then compare your screen with Figure 1.43.

Eight additional records display—those imported from the a01B_Workshops Excel workbook.

Figure 1.43



Eight additional records imported from an Excel workbook

Objective 7 | Organize Objects in the Navigation Pane

Use the Navigation Pane to organize database objects, to open them, and to perform common tasks like renaming an object.

Activity 1.20 | Organizing Database Objects in the Navigation Pane

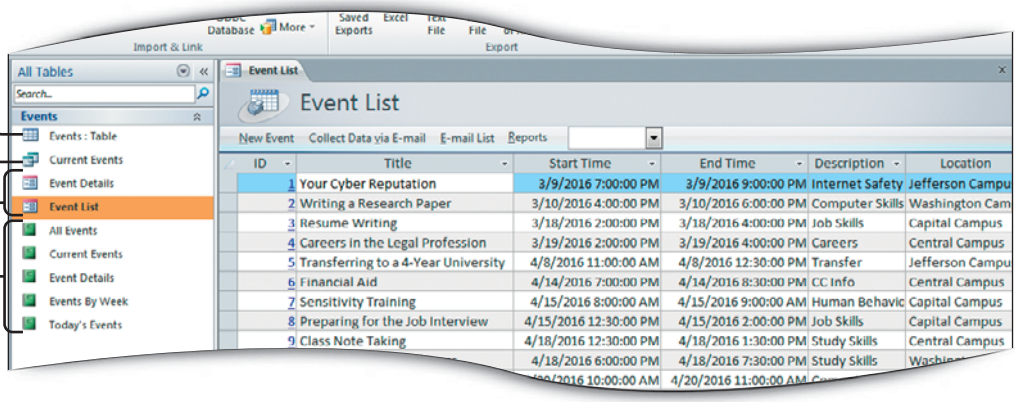
The Navigation Pane groups and displays your database objects and can do so in predefined arrangements. In this activity, you will group your database objects using the ***Tables and Related Views*** category, which groups objects by the table to which they are related. This grouping is useful because you can easily determine the data source table of queries, forms, and reports.

1 **Open** » the **Navigation Pane**. At the top of the **Navigation Pane**, click the **Navigation arrow** ⌄. In the list, under **Navigate To Category**, click **Tables and Related Views**.

2 Confirm that *Events* displays in the bar under the Search box at the top of the **Navigation Pane**. Compare your screen with Figure 1.44.

The icons to the left of the objects listed in the Navigation Pane indicate that the Events template created a number of objects for you—among them, one table titled *Events*, one query, two forms, and five reports. The Event List Multiple Items form, which is currently displayed in the object window, is included in the Navigation Pane. All of the objects were created using the underlying data source, which is the Events table.

Figure 1.44



One table
One query
Two forms
Five reports

Another Way

Double-click the table name to open it in the object window.

3 In the **Navigation Pane**, point to the **Events** *table*, right-click, and then click **Open**.

The Events table is the active object in the object window. Use the Navigation Pane to open objects for use. The 12 records that you entered using the Multiple Items *form* and by importing from an Excel workbook display in the *table*. Tables are the foundation of your database because your data must be stored in a table. You can enter records directly into a table or you can use a form to enter records.

4 In the object window, click the **Event List tab** to bring the form into view and make it the active object.

Recall that a form presents a more user-friendly screen for entering records into a table.

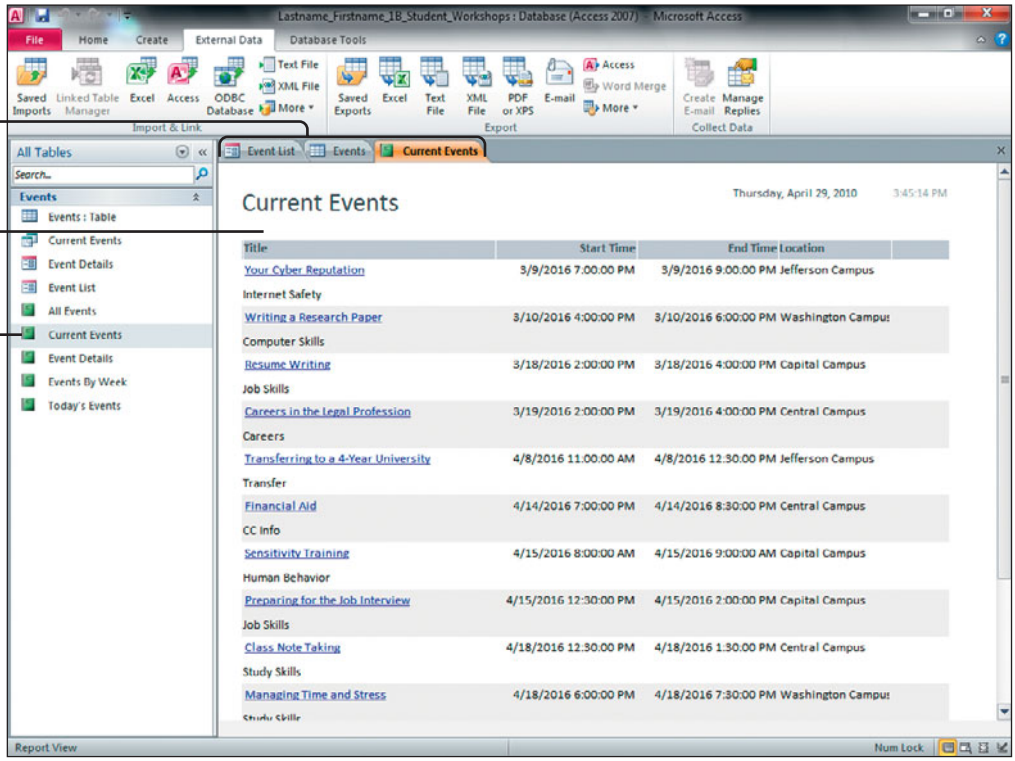
Another Way

Double-click the report name to open it.

5 In the **Navigation Pane**, right-click the *report* (green icon) named **Current Events**, and then click **Open**. Compare your screen with Figure 1.45.

An advantage of using a template to begin a database is that many objects, such as attractively formatted reports, are already designed for you.

Figure 1.45



6 In the object window, **Close** the **Current Events** report.

7 From the **Navigation Pane**, open the **Events By Week** report.

In this predesigned report, the events are displayed by week. After entering records in the form or table, the preformatted reports are updated with the records from the table.

8 **Close** the **Events By Week** report, and then **Close** the remaining two open objects. **Close** the **Navigation Pane**.

Objective 8 | Create a New Table in a Database Created with a Template

The Events database template created only one table—the *Events* table. Although the database was started from a template and contains other objects, you can add additional objects as needed.

Activity 1.21 | Creating a New Table and Changing Its Design

Dr. McCarty has information about the various locations where workshops are held. For example, for the Jefferson campus, she has information about the room, seating arrangements, number of seats, and audio-visual equipment. In the Events table, workshops are scheduled in rooms at each of the four campuses. It would not make sense to store information about the campus rooms multiple times in the same table. It is *not* considered good database design to have duplicate information in a table.

When data in a table becomes redundant, it is usually an indication that you need a new table to contain the information about the topic. In this activity, you will create a table to track the workshop locations and the equipment and seating arrangements in each location.

1. On the Ribbon, click the **Create tab**. In the **Tables group**, click the **Table** button.

2. Click the **Click to Add arrow**, click **Text**, type **Campus/Location** and then press Enter.

3. In the third column, click **Text**, type **Room** and then press Enter. In the fourth column, click **Text**, type **Seats** and then press Enter. In the fifth column, click **Text**, type **Room Arrangement** and then press Enter. In the sixth column, click **Text**, type **Equipment** and then press ↓.

   The table has six fields. Access creates the first field in the table—the ID field—to ensure that every record has a unique value.

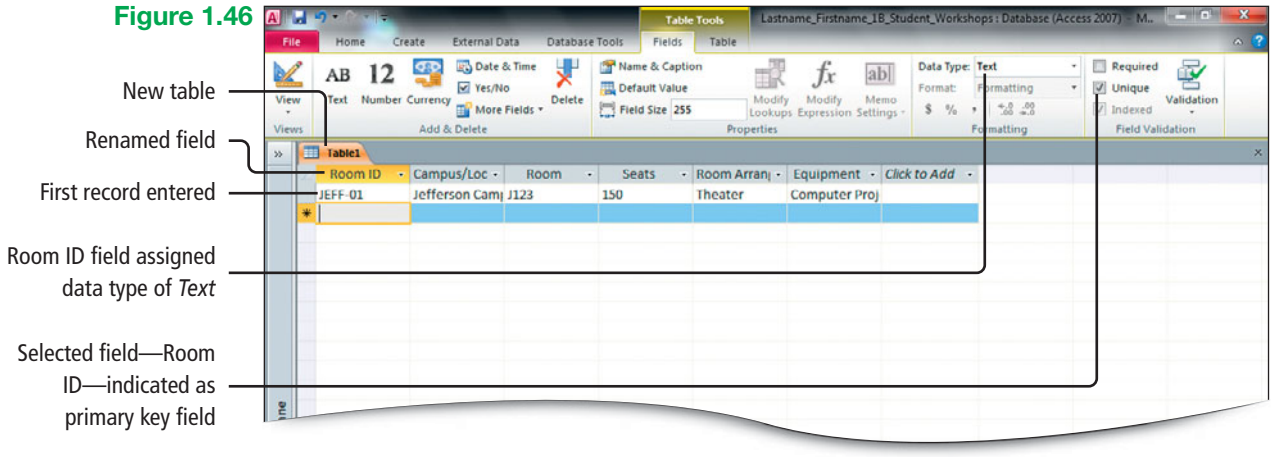
4. Right-click the **ID** field name, and then click **Rename Field**. Type **Room ID** and then press Enter. On the **Fields tab**, in the **Formatting group**, click the **Data Type arrow**, and then click **Text**. In the **Field Validation group**, notice that **Unique** is selected.

   Recall that, by default, Access creates the ID field with the AutoNumber data type so that the field can be used as the primary key. Here, this field will store a unique room ID that is a combination of letters, symbols, and numbers, so it is appropriate to change the data type to Text. In Datasheet view, the primary key field is identified by the selection of the Unique check box.

5 In the new record row, click in the **Room ID** field, type **JEFF-01** and then press Tab. In the **Campus/Location** field, type **Jefferson Campus** and then press Tab. In the **Room** field, type **J123** and then press Tab. In the **Seats** field, type **150** and then press Tab. In the **Room Arrangement** field, type **Theater** and then press Tab. In the **Equipment** field, type **Computer Projector, Surround Sound, & Microphones** and then press Tab to move to the new record row. Compare your screen with Figure 1.46.

Recall that Access saves the record when you move to another row within the table. You can press either Tab or Enter to move to another field in a table.

Figure 1.46



6 In the **Views group**, click the **View** button to switch to **Design** view. In the **Save As** dialog box, save the table as **Lastname Firstname 1B Workshop Locations** and then click **OK**.

7 In the **Field Name** column, to the left of the **Room ID** box, notice the key icon.

In Design view, the key icon indicates the field—Room ID—that is identified as the primary key.

8 In the **Views group**, click the **View** button to switch to **Datasheet** view.

9 Enter the following records in the table:

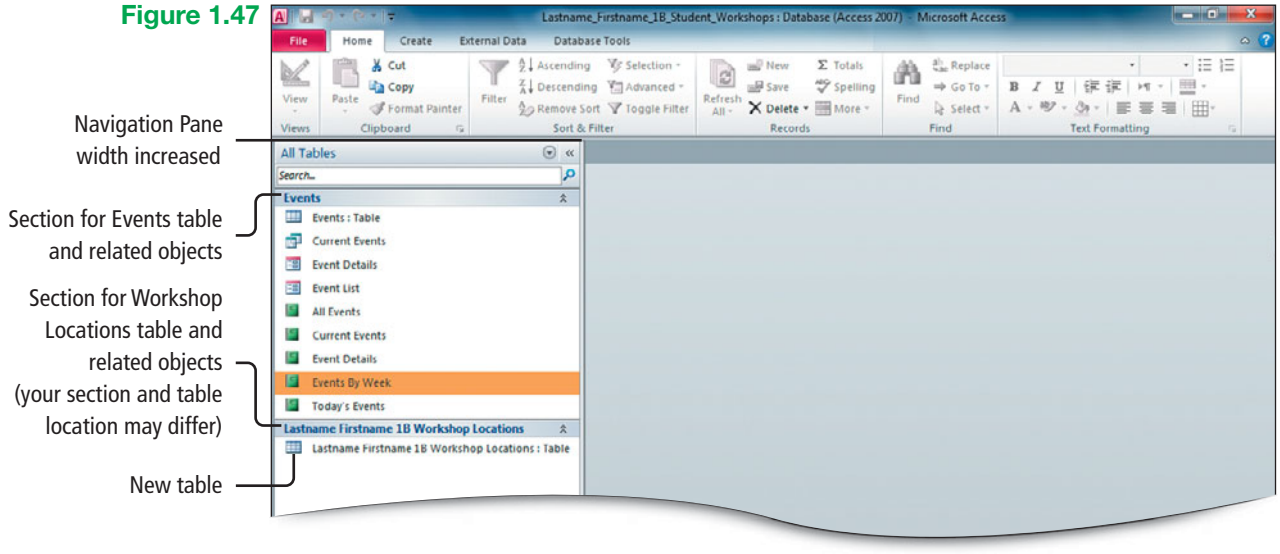
Room ID	Campus/Location	Room	Seats	Room Arrangement	Equipment
WASH-01	**Washington Campus**	**A15**	**35**	**Lecture/Classroom**	**Computer Projector**
CAP-01	**Capital Campus**	**C202**	**50**	**Lecture/Classroom**	**Smart Board**
CEN-01	**Central Campus**	**H248**	**20**	**U-shaped**	**White Board**
JEFF-02	**Jefferson Campus**	**A15**	**25**	**U-shaped**	**25 Computers, Projector**

10 To the left of the **Room ID** field name, click the **Select All** button to select all of the columns. On the **Home tab**, in the **Records group**, click the **More** button. Click **Field Width**, and in the **Column Width** dialog box, click **Best Fit**. Click in any field to remove the selection, and then **Save** the changes to the table. In the object window, **Close** the **1B Workshop Locations** table.

11 **Open** the **Navigation Pane**, and then locate the name of your new table. Point to the right edge of the **Navigation Pane** to display the pointer. Drag to the right to display the entire table name, and then compare your screen with Figure 1.47.

Recall that as currently arranged, the Navigation Pane organizes the objects by Tables and Related Views. In Figure 1.47, the Events table is listed first, followed by its related objects, and then the Workshop Locations table is listed. In its current view, the tables are sorted in ascending order by name; therefore, your table may be listed before the Events table depending on your last name.

Figure 1.47



Objective 9 | Print a Report and a Table in a Database Created with a Template

Recall that an advantage to starting a new database with a template, instead of from a blank database, is that many report objects are already created for you.

Activity 1.22 | Viewing and Printing a Report

1 From the **Navigation Pane**, open the **Event Details** *report* (not the form).

The pre-built Event Details report displays in an attractively arranged format.

2 **Close** the **Event Details** report. Open the **All Events** report. In the lower right corner of the status bar, click the **Layout View** button. At the top of the report, click on the text *All Events* to display a colored border, and then click to the left of the letter *A* to place the insertion point there. Using your own name, type **Lastname Firstname** and then press Spacebar. Press Enter, and then **Save** the report.

Each report displays the records in the table in different useful formats.

Another Way

Right-click the object tab, and then click Print Preview.

3 Display **Backstage** view, click **Print**, and then click **Print Preview**. In the navigation area, notice that the navigation arrows are dimmed, which indicates that this report will print on one page.

4 Create a paper or electronic printout as instructed, **Close Print Preview**, and then **Close** the report.

Activity 1.23 | Printing a Table

When printing a table, use the Print Preview command to determine if the table will print on one page or if you need to adjust column widths, margins, or the orientation. Recall that there will be occasions when you want to print a table for a quick reference or for proofreading. For a more professional-looking format, and for more options to format the output, create and print a report.

1 From the **Navigation Pane**, open your **1B Workshop Locations** table. **Close** the **Navigation Pane**. Display **Backstage** view, click **Print**, and then click **Print Preview**.

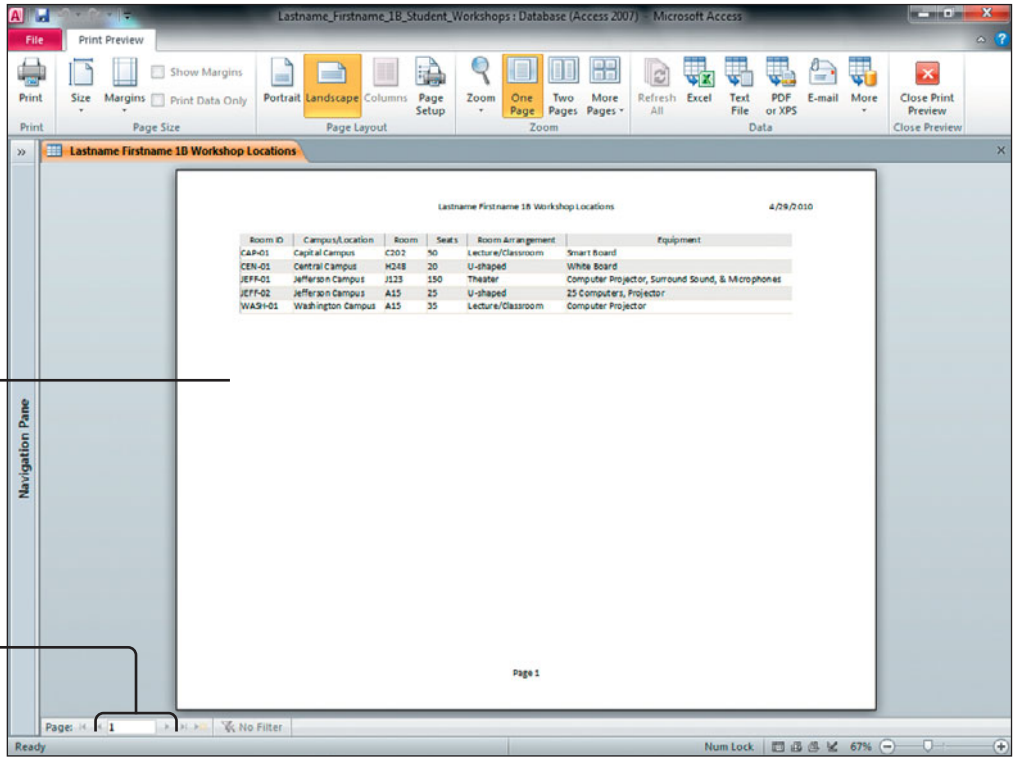
The table displays in the Print Preview window, showing how it will look when it is printed. The name of the table and the date the table is printed display at the top of the page. The navigation area displays *1* in the Pages box, and the right-pointing arrow—the Next Page arrow—is active. Recall that when a table is in the Print Preview window, the navigation arrows are used to navigate from one page to the next, rather than from one record to the next.

2 In the navigation area, click the **Next Page** button.

The second page of the table displays the last field column. Whenever possible, try to print all of the fields horizontally on one page. Of course, if there are many records, more than one page may be needed to print all of the records.

3 On the **Print Preview tab**, in the **Page Layout group**, click the **Landscape** button, and then compare your screen with Figure 1.48. Notice that the entire table will print on one page.

Figure 1.48



4 Create a paper or electronic printout if instructed to do so, and then **Close Print Preview**.

5 **Close** the **1B Workshop Locations** table. For the convenience of the next person opening the database, **Open** the **Navigation Pane**. In **Backstage** view, click **Close Database**, and then click **Exit** to close the Access program. As directed by your instructor, submit your database and the two paper or electronic printouts—one report and one table—that are the results of this project.

End **You have completed Project 1B**

Content-Based Assessments

Summary

Microsoft Access 2010 is a database management system that uses various objects—tables, forms, queries, reports—to organize information. Data is stored in tables in which you establish fields, set the data type and field size, and create a primary key. Data from a database can be reported and printed.

Key Terms

Append 61
AutoNumber data type 58
Best Fit 70
Blank database.....53
Caption 58
Common field 52
Currency data type.....57
Data 51
Data source 74
Data type.....56
Database.....51
Database management system (DBMS) 51
Database template.....52
Datasheet view.....56
DBMS 51
Design view 56
Destination table 62
Field.....51
Field properties 65
First principle of good database design.....52
Flat database 51
Form 74
Form view 78
Import 61
Information 51
Layout view.....77
Link 61
Multiple Items form 83
Navigation area 63
Navigation Pane 56
Normalization 52
Object window 56
Objects 53
Populate 59
Primary key.....66
Query.....74
Record.....51
Record selector bar 78
Record selector box 59
Redundant 52
Relational database 51
Report 74
Run 76
Second principle of good database design.....52
Select query 74
Simple select query 74
Single-record form.....84
Source file.....61
Structure.....56
Table 51
Tables and Related Views 86
Text data type 57
Truncated 66
Wizard 74

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.

_____ 1. An organized collection of facts about people, events, things, or ideas related to a specific topic.
_____ 2. Facts about people, events, things, or ideas.
_____ 3. Data that is organized in a useful manner.
_____ 4. A simple database file that is not related or linked to any other collection of data.
_____ 5. The database object that stores the data, and which is the foundation of an Access database.
_____ 6. A table row that contains all of the categories of data pertaining to one person, place, thing, event, or idea.
_____ 7. A single piece of information that is stored in every record and represented by a column in a table.
_____ 8. A principle stating that data is organized in tables so that there is no redundant data.
_____ 9. A principle stating that techniques are used to ensure the accuracy of data entered into a table.

A Common field
B Data
C Database
D Field
E First principle of good database design
F Flat database
G Information
H Navigation Pane
I Normalization
J Object window
K Objects
L Populate
M Record
N Second principle of good database design
O Table

_____ 10. The process of applying design rules and principles to ensure that a database performs as expected.

_____ 11. A field in one or more tables that stores the same data.

_____ 12. The basic parts of a database; for example tables, forms, queries, and reports.

_____ 13. The window area that organizes the database objects and from which you open objects.

_____ 14. The window area that displays each open object on its own tab.

_____ 15. The action of filling a database with records.

Multiple Choice

Circle the correct answer.

1. The Access view that displays data in columns and rows like an Excel worksheet is:
   A. Datasheet view **B.** Design view **C.** Layout view

2. The characteristic that defines the kind of data you can enter into a field is the:
   A. data source **B.** data type **C.** field property

3. The box at the left of a record in Datasheet view that you click to select an entire record is the:
   A. link **B.** navigation area **C.** record selector box

4. To add on to the end of an object, such as to add records to the end of an existing table, is to:
   A. append **B.** import **C.** run

5. Characteristics of a field that control how the field displays and how data is entered are:
   A. data sources **B.** data types **C.** field properties

6. The field that uniquely identifies a record in a table is known as the:
   A. attachments field **B.** common field **C.** primary key

7. The underlying design of a table is referred to as the:
   A. caption **B.** source file **C.** structure

8. The object that retrieves specific data and then displays only the data that you specify is a:
   A. form **B.** query **C.** report

9. The object that displays fields and records from a table or query in a printable format is a:
   A. form **B.** query **C.** report

10. Information repeated in a database in a manner that indicates poor design is said to be:
    A. relational **B.** redundant **C.** truncated

Content-Based Assessments

Apply 1A skills from these Objectives:

1. Identify Good Database Design
2. Create a Table and Define Fields in a New Database
3. Change the Structure of Tables and Add a Second Table
4. Create and Use a Query, Form, and Report
5. Save and Close a Database

Skills Review | Project 1C Work Study Students Database

In the following Skills Review, you will create a database to store information about the Work Study students and the divisions in which they are employed. Your completed database objects will look similar to Figure 1.49.

Project Files

For Project 1C, you will need the following files:

New blank Access database
a01C_Student_Workers (Excel workbook)
a01C_Divisions (Excel workbook)

You will save your database as:

Lastname_Firstname_1C_Student_Workers

Project Results

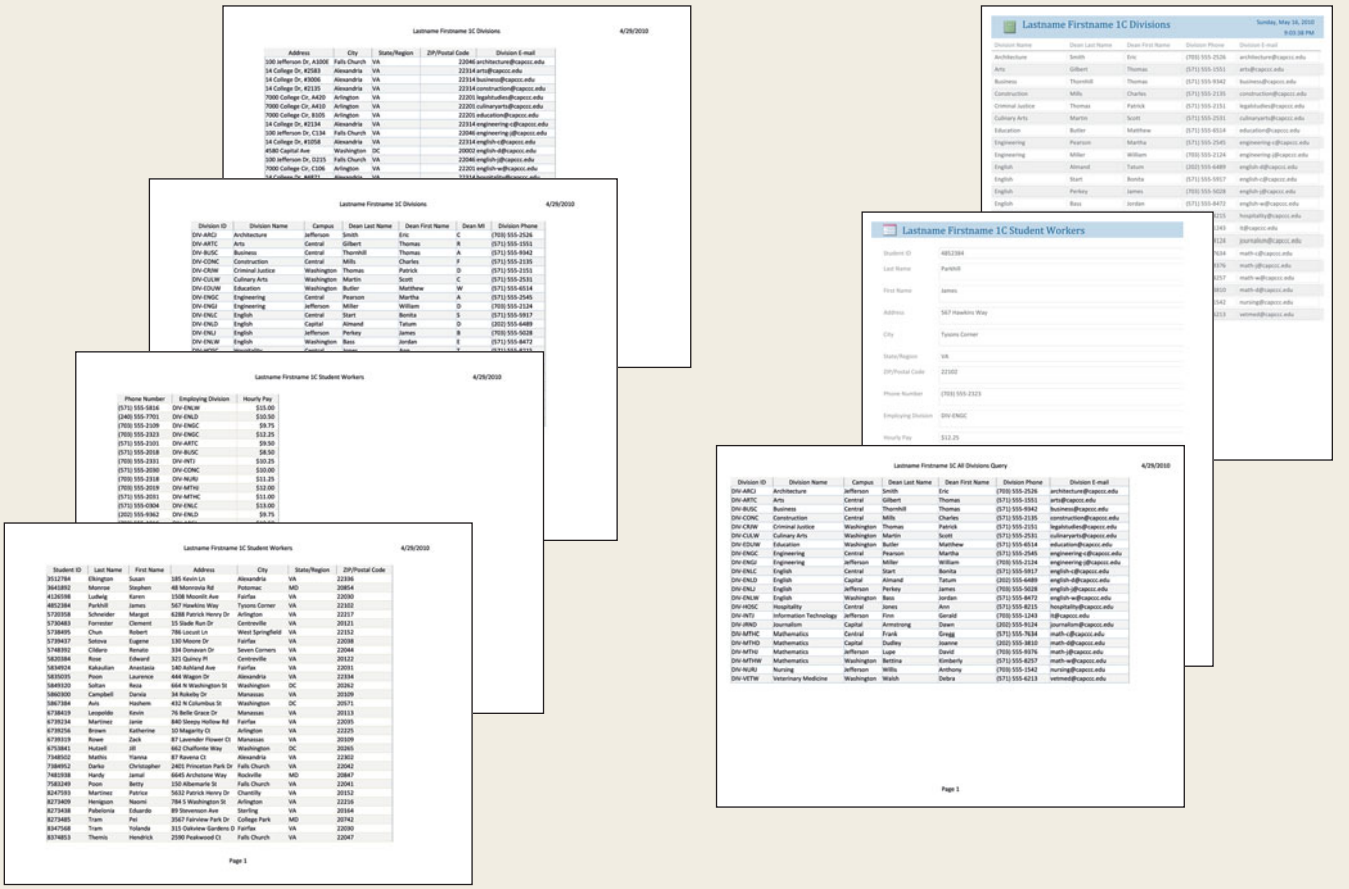


Figure 1.49

(Project 1C Work Study Students Database continues on the next page)

Skills Review | Project 1C Work Study Students Database (continued)

1 **Start** Access. Click **Blank database**, and then in the lower right corner, click the **Browse** button. In the **File New Database** dialog box, navigate to your **Access Chapter 1** folder, and then in the **File name** box, replace the existing text with **Lastname_Firstname_1C_Student_Workers** Press Enter, and then in the lower right corner, click **Create**.

a. **Close** the **Navigation Pane**. Click in the text *Click to Add*. Click **Text**, type **Last Name** and then press Enter.

b. In the third field name box, click **Text**, type **First Name** and then press Enter. In the fourth field name box, click **Text**, type **Middle Initial** and then press Enter. Create the remaining fields as shown in **Table 1**, pressing Enter after the last field name.

c. Scroll as necessary to view the first field. Click the **ID** field name. In the **Properties group**, click the **Name & Caption** button. In the **Enter Field Properties** dialog box, in the **Name** box, change *ID* to **Student ID** and then click **OK**. In the **Formatting group**, click the **Data Type arrow**, and then click **Text**.

d. In the first record row, click in the **Student ID** field, type **3512784** and press Enter. In the **Last Name** field, type **Elkington** In the **First Name** field, type **Susan** In the **Middle Initial** field, type **A** In the **Address** field, type **185 Kevin Ln**

e. Continue entering data in the fields as shown in **Table 2**, pressing Enter to move to the next field and to the next row.

f. Click **Save**, and then in the **Table Name** box, using your own name, replace the selected text by typing **Lastname Firstname 1C Student Workers** and then click **OK**.

2 Scroll, if necessary, to view the first field. In the new record row, click in the **Student ID** field, and then enter the information for two additional students as shown in **Table 3**, pressing Enter to move from field to field.

a. **Close** your **1C Student Workers** table. On the **External Data tab**, in the **Import & Link group**, click the **Excel** button. In the **Get External Data - Excel Spreadsheet** dialog box, click the **Browse** button. In the **File Open** dialog box, navigate to your student data files, and then double-click the **a01C_Student_Workers** Excel file.

b. **Append a copy of the records to the table**, and then click **OK**. Click **Next**, click **Finish**, and then click **Close**. **Open** the **Navigation Pane**, and then widen it so that you can view the entire table name. In the **Navigation Pane**, double-click your **1C Student Workers** table to open it, and then **Close** the **Navigation Pane**—30 total records display.

Table 1

Data Type					Text	Text	Text	Text	Text	Text	Currency
Field Name	ID	Last Name	First Name	Middle Initial	**Address**	**City**	**State/Region**	**ZIP/Postal Code**	**Phone Number**	**Employing Division**	**Hourly Pay**

Return to Step 1-c

Table 2

City	State/Region	ZIP/Postal Code	Phone Number	Employing Division	Hourly Pay
Alexandria	**VA**	**22336**	**(571) 555-5816**	**DIV-ENLW**	**15**

Return to Step 1-f

Table 3

Student ID	Last Name	First Name	Middle Initial	Address	City	State/ Region	ZIP/Postal Code	Phone Number	Employing Division	Hourly Pay
3641892	**Monroe**	**Stephen**	**D**	**48 Monrovia Rd**	**Potomac**	**MD**	**20854**	**(240) 555-7701**	**DIV-ENLD**	**10.5**
4126598	**Ludwig**	**Karen**	**E**	**1508 Moonlit Ave**	**Fairfax**	**VA**	**22030**	**(703) 555-2109**	**DIV-ENGC**	**9.75**

Return to Step 2-a

(Project 1C Work Study Students Database continues on the next page)

Skills Review | Project 1C Work Study Students Database (continued)

3 Click the **Home tab**, and then in the **Views group**, click the **View** button to switch to **Design** view.

a. To the left of **Middle Initial**, point to the row selector box, and then click to select the entire row. On the **Design tab**, in the **Tools group**, click the **Delete Rows** button, and then click **Yes**.

b. Click anywhere in the **State/Region** field name, and then under **Field Properties**, set the **Field Size** to **2** In the **State/Region** row, click in the **Description** box, and then type **Two-character state abbreviation**

c. Click in the **Student ID** field name box, set the **Field Size** to **7** and in the **Description** box, type **Seven-digit Student ID** Then **Save** the design of your table; click **Yes**. On the **Design tab**, in the **Views group**, click the **View** button to switch to **Datasheet** view.

4 On the Ribbon, click the **External Data tab**, and then in the **Import & Link group**, click the **Excel** button. In the **Get External Data – Excel Spreadsheet** dialog box, click the **Browse** button. Navigate to your student data files, and then double-click **a01C_Divisions**. Be sure that the **Import the source data into a new table in the current database** option button is selected, and then click **OK**.

a. In the **Import Spreadsheet Wizard** dialog box, click to select the **First Row Contains Column Headings** check box, and then click **Next**.

b. Click **Next** again. Click the **Choose my own primary key** option button, and to the right, be sure that *Division ID* displays. Click **Next**. In the **Import to Table** box, type **Lastname Firstname 1C Divisions** and then click **Finish**. Click **Close**, **Open** the **Navigation Pane**, and then open your **1C Divisions** table. **Close** the **Navigation Pane**—22 records display.

c. At the top of the object window, click the **1C Student Workers tab**. To the left of the **Student ID** field name, click the **Select All** button. Click the **Home tab**, and in the **Records group**, click the **More** button. Click **Field Width**, and in the **Column Width** dialog box, click **Best Fit**. Click in any field, and then **Save** the table.

d. Display **Backstage** view, click **Print**, and then click **Print Preview**. In the **Page Layout group**, click the **Landscape** button. Create a paper or electronic printout as directed by your instructor; two pages result. Click **Close Print Preview**, and then **Close** your **1C Student Workers** table.

e. With your **1C Divisions** table displayed, to the left of the **Division ID** field name, click the **Select All** button, and then apply **Best Fit** to all of the columns. Click in any field, **Save** the table, and then display the table in **Print Preview**. Change the **Orientation** to **Landscape**. Create a paper or electronic printout as directed—two pages result. **Close Print Preview**, and then **Close** your **1C Divisions** table.

5 On the **Create tab**, in the **Queries group**, click the **Query Wizard** button. In the **New Query** dialog box, click **Simple Query Wizard**, and then click **OK**. Click the **Tables/Queries arrow**, and then be sure your **Table: 1C Divisions** is selected.

a. Under **Available Fields**, click **Division ID**, and then click the **Add Field** button to move the field to the **Selected Fields** list on the right. Using either the **Add Field** button or by double-clicking, add the following fields to the **Selected Fields** list: **Division Name**, **Campus**, **Dean Last Name**, **Dean First Name**, **Division Phone**, and **Division E-mail**. The query will answer the question, *What is the Division ID, Division Name, Campus, Dean's name, Division Phone number, and Division E-mail address of every division?*

b. Click **Next**. In the **Simple Query Wizard** dialog box, change the query title to **Lastname Firstname 1C All Divisions Query** and then click **Finish** to run the query.

c. Display the query in **Print Preview**. Change the **Orientation** to **Landscape**. In the **Page Size group**, click the **Margins** button, and then click **Normal**. Create a paper or electronic printout as directed—one page results. **Close Print Preview**, and then **Close** the query.

d. **Open** the **Navigation Pane**, open your **1C Student Workers** table, and then **Close** the **Navigation Pane**. The table contains 10 fields. On the **Create tab**, in the **Forms group**, click the **Form** button. Click **Save**, and then in the **Save As** dialog box, accept the default name for the form—*Lastname Firstname 1C Student Workers*—by clicking **OK**. In the navigation area, click the **Next record** button three times to display the record for *James Parkhill*. At the left edge of the form, click the gray **record selector bar** to select only this record. By using the instructions in Activity 1.15, print or create an electronic printout of this record as directed. **Close** the form object. Your **1C Student Workers** table object remains open.

(Project 1C Work Study Students Database continues on the next page)

Skills Review | Project 1C Work Study Students Database (continued)

6 **Open** the **Navigation Pane**, open your **1C Divisions** table, and then **Close** the **Navigation Pane**. On the **Create tab**, in the **Reports group**, click the **Report** button. In the field names row at the top of the report, click the **Division ID** field name. On the Ribbon, click the **Arrange tab**. In the **Rows & Columns group**, click the **Select Column** button, and then press Del. Using the same technique, delete the **Campus** field.

a. Scroll to position the **Dean MI** field at the left of your screen, and click the field name **Dean MI**. Hold down Ctrl, and then click the field names for **Address**, **City**, **State/Region**, and **ZIP/Postal Code**. On the **Arrange tab**, in the **Rows & Columns group**, click the **Select Column** button, and then press Del.

b. Scroll to the left, and then click in the **Dean Last Name** field name. By using the ⇿ pointer, decrease the width of the field until there is about **0.25 inch** of space between the **Dean Last Name** field and the **Dean First Name** field. Decrease the widths of the **Dean First Name** and **Division Phone** fields in a similar manner. In the **Division E-mail** field, click in the first record—the data in the field displays on two lines. Increase the width of the field slightly so that each record's data in the field displays on one line. Be sure that the width of the report is within the dotted boundaries.

c. Click the **Division Name** field name. On the Ribbon, click the **Home tab**. In the **Sort & Filter group**, click the **Ascending** button to sort the report in alphabetic order by Division Name.

d. **Save** the report as **Lastname Firstname 1C Divisions Report** and then click **OK**. Display the report in **Print Preview**. In the **Zoom group**, click the **Two Pages** button, and notice that the report will print on two pages because the page number is beyond the right margin of the report. **Close Print Preview**. With the report displayed in **Layout** view, scroll down and to the right to display the page number—**Page 1 of 1**. Click the page number, press Del, and then **Save** the changes to the report.

e. Display the report in **Print Preview**, and notice that the report will print on one page. In the **Zoom group**, click the **One Page** button. Create a paper or electronic printout of the report as directed. Click **Close Print Preview**. Along the top of the object window, right click any **object tab**, and then click **Close All** to close all of the open objects, leaving the object window empty.

f. **Open** the **Navigation Pane**. If necessary, increase the width of the **Navigation Pane** so that 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 five paper or electronic printouts—two tables, one query, one form, and one report—that are the results of this project.

End **You have completed Project 1C**

Content-Based Assessments

Apply 1B skills from these Objectives:

- 6 Create a Database Using a Template
- 7 Organize Objects in the Navigation Pane
- 8 Create a New Table in a Database Created with a Template
- 9 Print a Report and a Table in a Database Created with a Template

Skills Review | Project 1D Benefits Events

In the following Skills Review, you will create a database to store information about Employee Benefit Events at Capital Cities Community College. Your completed report and table will look similar to Figure 1.50.

Project Files

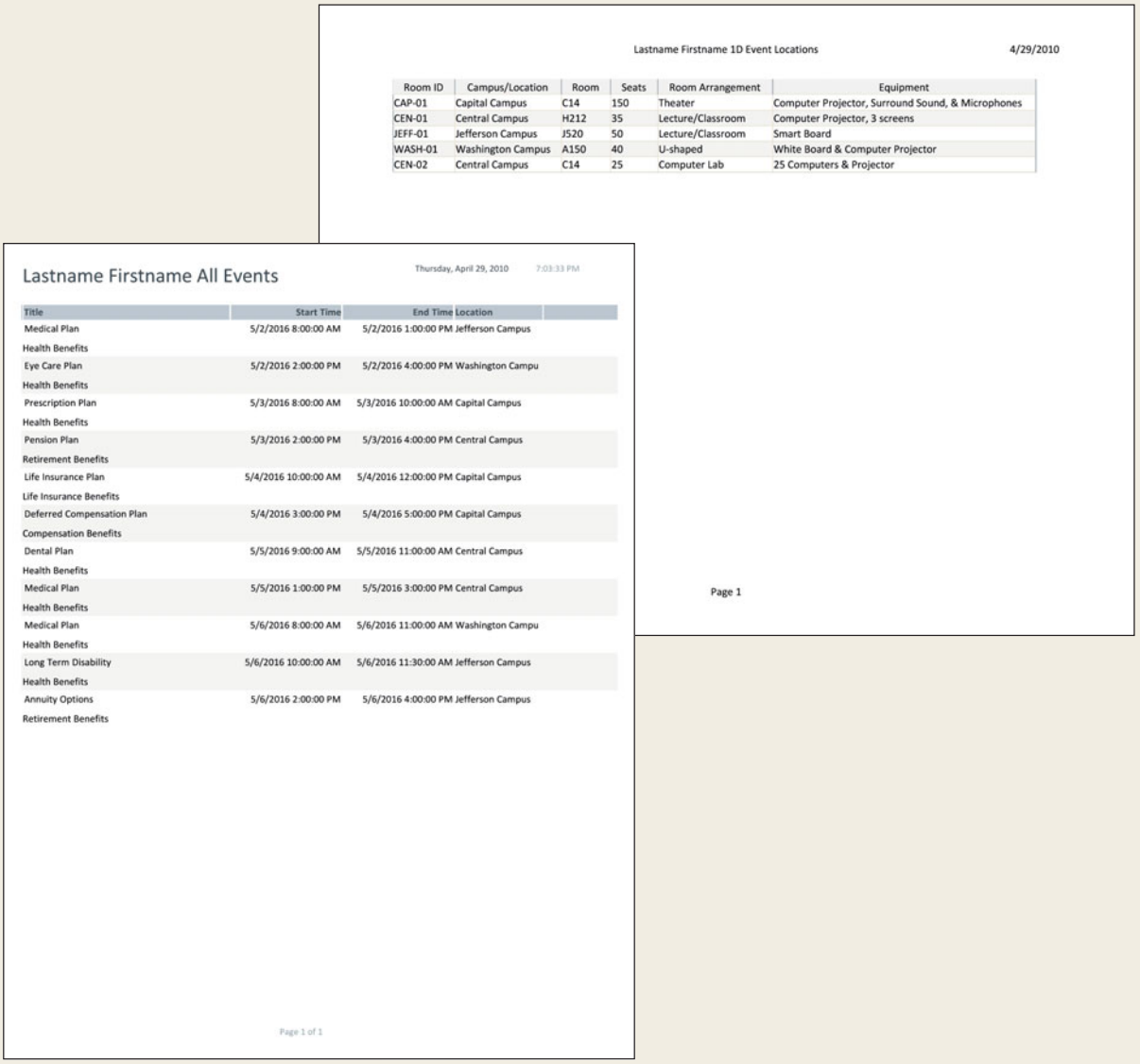
For Project 1D, you will need the following files:

New Access database using the Events template
a01D_Benefits_Events (Excel workbook)

You will save your database as:

Lastname_Firstname_1D_Benefits_Events

Project Results



Lastname Firstname 1D Event Locations 4/29/2010

Room ID	Campus/Location	Room	Seats	Room Arrangement	Equipment
CAP-01	Capital Campus	C14	150	Theater	Computer Projector, Surround Sound, & Microphones
CEN-01	Central Campus	H212	35	Lecture/Classroom	Computer Projector, 3 screens
JEFF-01	Jefferson Campus	J520	50	Lecture/Classroom	Smart Board
WASH-01	Washington Campus	A150	40	U-shaped	White Board & Computer Projector
CEN-02	Central Campus	C14	25	Computer Lab	25 Computers & Projector

Page 1

Lastname Firstname All Events Thursday, April 29, 2010 7:03:33 PM

Title	Start Time	End Time	Location
Medical Plan	5/2/2016 8:00:00 AM	5/2/2016 1:00:00 PM	Jefferson Campus
Health Benefits			
Eye Care Plan	5/2/2016 2:00:00 PM	5/2/2016 4:00:00 PM	Washington Campu
Health Benefits			
Prescription Plan	5/3/2016 8:00:00 AM	5/3/2016 10:00:00 AM	Capital Campus
Health Benefits			
Pension Plan	5/3/2016 2:00:00 PM	5/3/2016 4:00:00 PM	Central Campus
Retirement Benefits			
Life Insurance Plan	5/4/2016 10:00:00 AM	5/4/2016 12:00:00 PM	Capital Campus
Life Insurance Benefits			
Deferred Compensation Plan	5/4/2016 3:00:00 PM	5/4/2016 5:00:00 PM	Capital Campus
Compensation Benefits			
Dental Plan	5/5/2016 9:00:00 AM	5/5/2016 11:00:00 AM	Central Campus
Health Benefits			
Medical Plan	5/5/2016 1:00:00 PM	5/5/2016 3:00:00 PM	Central Campus
Health Benefits			
Medical Plan	5/6/2016 8:00:00 AM	5/6/2016 11:00:00 AM	Washington Campu
Health Benefits			
Long Term Disability	5/6/2016 10:00:00 AM	5/6/2016 11:30:00 AM	Jefferson Campus
Health Benefits			
Annuity Options	5/6/2016 2:00:00 PM	5/6/2016 4:00:00 PM	Jefferson Campus
Retirement Benefits			

Page 1 of 1

Figure 1.50

(Project 1D Benefits Events continues on the next page)

Skills Review | Project 1D Benefits Events (continued)

1 **Start** Access. Under **Available Templates**, click **Sample templates**, and then click **Events**. On the right, to the right of the **File Name** box, click the **Browse** button, and then navigate to your **Access Chapter 1** folder.

a. Select the text in the **File name** box, and then using your own information, type **Lastname_Firstname_1D_Benefits_Events** and then press Enter. In the lower right corner of your screen, click the **Create** button. If necessary, click Enable Content.

b. Click in the first empty **Title** field, type **Medical Plan** and then press Tab. In the **Start Time** field, type **5/2/16 8a** and then press Tab.

c. In the **End Time** field, type **5/2/16 1p** and then press Tab. In the **Description** field, type **Health Benefits** and then press Tab. In the **Location** field, type **Jefferson Campus** and then press Tab three times to move to the **Title** field in the new record row.

d. Directly above the field names row, click **New Event**, and then using Tab to move from field to field, enter the record shown in **Table 1** by using the single-record form, which is another way to enter records into a table.

e. **Close** the single-record form. Using either the rows on the Multiple Items form or the New Event single-record form, enter the records shown in **Table 2**.

f. **Close** the **Event List** form. On the Ribbon, click the **External Data tab**, and in the **Import & Link group**, click the **Excel** button. In the **Get External Data – Excel Spreadsheet** dialog box, click the **Browse** button. Navigate to your student data files, and then double-click **a01D_Benefits_Events**. Click the second option button—**Append a copy of the records to the table**—and then click **OK**.

g. Click **Next**, click **Finish**, and then **Close** the dialog box. **Open** the **Navigation Pane**, and then double-click **Event List** to open the form that displays data stored in the Events table—11 total records display.

2 At the top of the **Navigation Pane**, click the **Navigation arrow**. In the list, under **Navigate To Category**, click **Tables and Related Views**.

a. In the **Navigation Pane**, point to the **Events** *table*, right-click, and then click **Open** to display the records in the underlying table.

b. In the **Navigation Pane**, double-click the *report* named **Current Events** to view this predesigned report. From the **Navigation Pane**, open the **Events By Week** report to view this predesigned report.

c. **Close** the **Events By Week** report, and then **Close** the remaining three open objects. **Close** the **Navigation Pane**.

3 On the **Create tab**, in the **Tables group**, click the **Table** button.

a. Click the **Click to Add arrow**, click **Text**, type **Campus/Location** and then press Enter. In the third column, click **Text**, type **Room** and then press Enter. In the fourth column, click **Text**, type **Seats** and then press Enter. In the fifth column, click **Text**, type **Room Arrangement** and then press Enter. In the sixth column, click **Text**, type **Equipment** and then press ↓.

b. Right-click the **ID** field name, and then click **Rename Field**. Type **Room ID** and then press Enter. On the **Fields tab**, in the **Formatting group**, click the **Data Type arrow**, and then click **Text**.

c. In the new record row, click in the **Room ID** field, type **CAP-01** and then press Tab. In the **Campus/Location** field, type **Capital Campus** and then press Tab. In the **Room** field, type **C14** and then press Tab. In the **Seats** field, type **150** and then press Tab. In the **Room Arrangement** field, type **Theater** and then press Tab. In the **Equipment** field, type **Computer Projector, Surround Sound, & Microphones** and then press Tab to move to the new record row.

Table 1

Title	Location	Start Time	End Time	Description
Eye Care Plan	**Washington Campus**	**5/2/16 2p**	**5/2/16 4p**	**Health Benefits**

Return to Step 1-e

Table 2

ID	Title	Start Time	End Time	Description	Location
3	**Prescription Plan**	**5/3/16 8a**	**5/3/16 10a**	**Health Benefits**	**Capital Campus**
4	**Pension Plan**	**5/3/16 2p**	**5/3/16 4p**	**Retirement Benefits**	**Central Campus**

Return to Step 1-f

(Project 1D Benefits Events continues on the next page)

Skills Review | Project 1D Benefits Events (continued)

d. In the **Views group**, click the **View** button to switch to **Design** view. In the **Save As** dialog box, save the table as **Lastname Firstname 1D Event Locations** and then click **OK**. Notice that the **Room ID** field is the **Primary Key**.

e. On the **Design tab**, in the **Views group**, click the **View** button to switch to **Datasheet** view. Enter the records in the table as shown in **Table 3**.

f. To the left of the **Room ID** field name, click the **Select All** button to select all of the columns. On the **Home tab**, in the **Records group**, click the **More** button. In the **Column Size** dialog box, click **Best Fit**.

g. Click in any record to cancel the selection of the columns, and then **Save** the table. **Open** the **Navigation Pane**, and then widen the pane to view the full names of all objects.

4 **Open** the **All Events** report, and then **Close** the **Navigation Pane**. In the lower right corner, click the **Layout View** button. At the top of the report, click the text *All Events* to surround the title with a colored border, and then click to the left of the letter *A* to place the insertion point there. Using your own name, type **Lastname Firstname** and then press Spacebar and Enter. **Save** the report.

a. Display **Backstage** view, click **Print**, and then click **Print Preview**. Notice that the entire report will print on one page in portrait orientation. Create a paper or electronic printout if instructed to do so, and then click **Close Print Preview**. **Close** the **All Events** report.

b. With the **1D Event Locations** table open in **Datasheet** view, display **Backstage** view, click **Print**, and then click **Print Preview**. On the **Print Preview tab**, in the **Page Layout group**, click the **Landscape** button, and then notice that the entire table will print on one page.

c. Create a paper or electronic printout if instructed to do so, and then click **Close Print Preview**. **Close** the **1D Event Locations** table.

d. **Open** the **Navigation Pane**. 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—one report and one table—that are the results of this project.

Table 3

Room ID	Campus/Location	Room	Seats	Room Arrangement	Equipment
CEN-01	Central Campus	H212	35	Lecture/Classroom	Computer Projector, 3 screens
JEFF-01	Jefferson Campus	J520	50	Lecture/Classroom	Smart Board
WASH-01	Washington Campus	A150	40	U-shaped	White Board & Computer Projector
CEN-02	Central Campus	C14	25	Computer Lab	25 Computers & Projector

Return to Step 3-f

End **You have completed Project 1D**

Content-Based Assessments

Apply 1A skills from these Objectives:

1. Identify Good Database Design
2. Create a Table and Define Fields in a New Database
3. Change the Structure of Tables and Add a Second Table
4. Create and Use a Query, Form, and Report
5. Save and Close a Database

Mastering Access | Project 1E Kiosk Inventory

In the following Mastering Access project, you will create a database to track information about the inventory of items for sale in the kiosk located on the quad at the Central Campus of Capital Cities Community College. Your completed database objects will look similar to those in Figure 1.51.

Project Files

For Project 1E, you will need the following files:

New blank Access database
a01E_Inventory (Excel workbook)
a01E_Inventory_Storage (Excel workbook)

You will save your database as:

Lastname_Firstname_1E_Inventory

Project Results

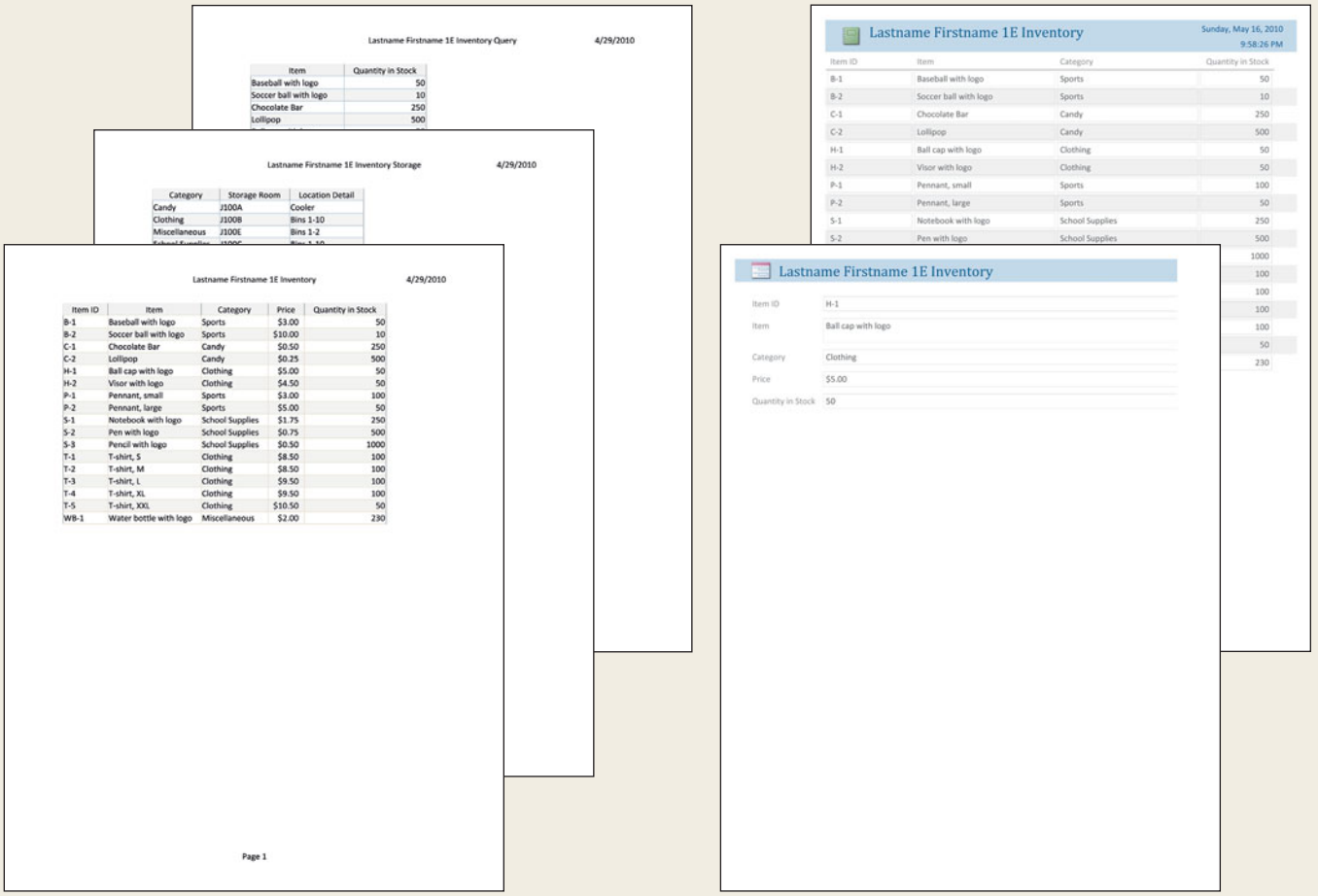


Figure 1.51

(Project 1E Kiosk Inventory continues on the next page)

Content-Based Assessments

Mastering Access | Project 1E Kiosk Inventory (continued)

1 **Start** Access. Create a new **Blank database** in your **Access Chapter 1** folder. Name the database **Lastname_Firstname_1E_Inventory** and then **Close** the **Navigation Pane**. Create additional fields as shown in **Table 1**.

2 Change the **Data Type** of the **ID** field to **Text**, rename the field to **Item ID** and then enter the records as shown in **Table 2**.

3 **Save** the table as **Lastname Firstname 1E Inventory** and then **Close** the table. From your student data files, **Import** and then **Append** the **a01E_Inventory** Excel file to the **1E Inventory** table. Then, from the **Navigation Pane**, open your **1E Inventory** table—17 records display. Widen and then **Close** the **Navigation Pane**.

4 In **Design** view, delete the **Storage Location** field. Click in the **Category** field, change the **Field Size** to **25** and in the **Description** box, type **Enter the category of the Item** Click in the **Item ID** field, and then change the **Field Size** to **10 Save** the changes to the design of your table, click **Yes**, and then switch to **Datasheet** view. Apply **Best Fit** to all of the fields in the table, **Save** the table, and then display the table in **Print Preview**—one page results. Create a paper or electronic printout as directed by your instructor. **Close** the table.

5 From your student data files, **Import** the **a01E_Inventory_Storage** Excel file into the database as a new table; use the first row as the column headings and the **Category** field as the primary key. As the last step in the Wizard, name the table **Lastname Firstname 1E Inventory Storage** and then **Open** the **Navigation Pane**. **Open** your **1E Inventory Storage** table, and then **Close** the **Navigation Pane**. Display the new table in **Design** view, click in the **Location Detail** field, change the **Field Size** to **30** and then as the **Description**, type **Enter room and bin numbers or alternate location of inventory item.** In **Datasheet** view, apply **Best Fit** to all of the fields, **Save** the table, and then display the table in **Print Preview**. Create a paper or electronic printout as directed—one page results. **Close** the table.

6 **Create**, by using the **Query Wizard**, a **Simple Query** based on your **1E Inventory** table. Include only the fields that will answer the question *For all Items, what is the Quantity in Stock?* **Save** the query with the default name. Create a paper or electronic printout as directed and then **Close** the query.

7 Display the **1E Inventory** table, and then **Create** a **Form** for this table. **Save** the form as **Lastname Firstname 1E Inventory Form** Display and then select the fifth record. By using the instructions in Activity 1.15, print or create an electronic printout of only this record as directed. **Close** the form object.

8 With the **1E Inventory** table open, **Create** a **Report**. **Delete** the **Price** field, and then sort the records in **Ascending** order by the **Item ID** field. Scroll down to the bottom of the report and delete the page number—**Page 1 of 1**. **Save** the report as **Lastname Firstname 1E Inventory Report** and then create a paper or electronic printout as directed.

9 **Close All** open objects. **Open** the **Navigation Pane**. If necessary, widen the pane so that all of the object names display 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—two tables, one query, one form, and one report—that are the results of this project.

Table 1

Data Type		Text	Text	Text	Currency	Number
Field Name	ID	Item	Category	Storage Location	Price	Quantity in Stock

Return to Step 2

Table 2

Item ID	Item	Category	Storage Location	Price	Quantity in Stock
C-1	Chocolate Bar	Candy	J100A	.5	250
C-2	Lollipop	Candy	J100A	.25	500
T-1	T-shirt, S	Clothing	J100B	8.5	100

Return to Step 3

End **You have completed Project 1E**

Content-Based Assessments

Apply 1B skills from these Objectives:

- 6 Create a Database Using a Template
- 7 Organize Objects in the Navigation Pane
- 8 Create a New Table in a Database Created with a Template
- 9 Print a Report and a Table in a Database Created with a Template

Mastering Access | Project 1F Recruiting Events

In the following Mastering Access project, you will create a database to store information about the recruiting events that are scheduled to attract new students to Capital Cities Community College. Your completed report and table will look similar to those in Figure 1.52.

Project Files

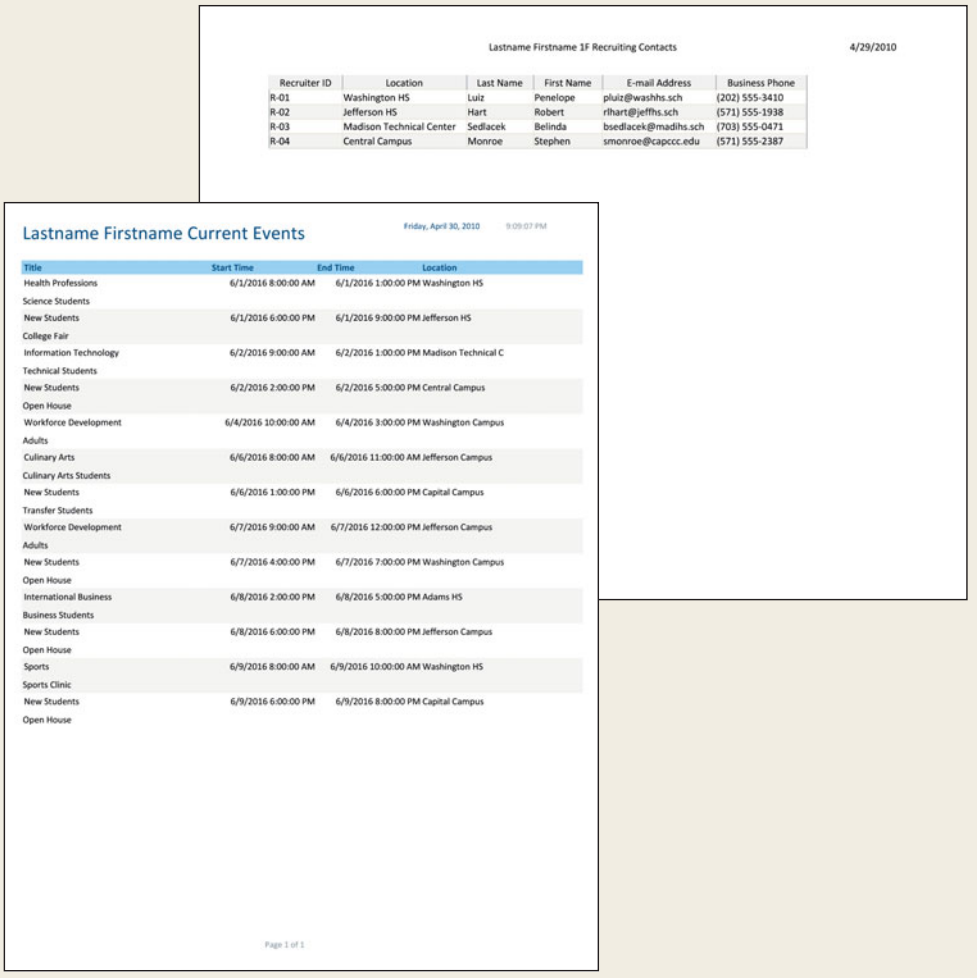
For Project 1F, you will need the following files:

New Access database using the Events template
a01F_Recruiting_Events (Excel workbook)

You will save your database as:

Lastname_Firstname_1F_Recruiting_Events

Project Results



Lastname Firstname 1F Recruiting Contacts 4/29/2010

Recruiter ID	Location	Last Name	First Name	E-mail Address	Business Phone
R-01	Washington HS	Luiz	Penelope	pluiz@washhs.sch	(202) 555-3410
R-02	Jefferson HS	Hart	Robert	rlhart@jeffhs.sch	(571) 555-1938
R-03	Madison Technical Center	Sedlacek	Belinda	bsedlacek@madihs.sch	(703) 555-0471
R-04	Central Campus	Monroe	Stephen	smonroe@capccc.edu	(571) 555-2387

Lastname Firstname Current Events Friday, April 30, 2010 9:09:07 PM

Title	Start Time	End Time	Location
Health Professions Science Students	6/1/2016 8:00:00 AM	6/1/2016 1:00:00 PM	Washington HS
New Students College Fair	6/1/2016 6:00:00 PM	6/1/2016 9:00:00 PM	Jefferson HS
Information Technology Technical Students	6/2/2016 9:00:00 AM	6/2/2016 1:00:00 PM	Madison Technical C
New Students Open House	6/2/2016 2:00:00 PM	6/2/2016 5:00:00 PM	Central Campus
Workforce Development Adults	6/4/2016 10:00:00 AM	6/4/2016 3:00:00 PM	Washington Campus
Culinary Arts Culinary Arts Students	6/6/2016 8:00:00 AM	6/6/2016 11:00:00 AM	Jefferson Campus
New Students Transfer Students	6/6/2016 1:00:00 PM	6/6/2016 6:00:00 PM	Capital Campus
Workforce Development Adults	6/7/2016 9:00:00 AM	6/7/2016 12:00:00 PM	Jefferson Campus
New Students Open House	6/7/2016 4:00:00 PM	6/7/2016 7:00:00 PM	Washington Campus
International Business Business Students	6/8/2016 2:00:00 PM	6/8/2016 5:00:00 PM	Adams HS
New Students Open House	6/8/2016 6:00:00 PM	6/8/2016 8:00:00 PM	Jefferson Campus
Sports Sports Clinic	6/9/2016 8:00:00 AM	6/9/2016 10:00:00 AM	Washington HS
New Students Open House	6/9/2016 6:00:00 PM	6/9/2016 8:00:00 PM	Capital Campus

Page 1 of 1

Figure 1.52

(Project 1F Recruiting Events continues on the next page)

Content-Based Assessments

Mastering Access | Project 1F Recruiting Events (continued)

1 **Start** Access, click **Sample templates**, and then click **Events**. In your **Access Chapter 1** folder, save the database as **Lastname_Firstname_1F_Recruiting_Events** If necessary, enable the content.

2 In the Multiple Items form or the New Event single-record form, enter the records shown in **Table 1** into the Events table.

3 **Close** the **Event List** form, and then click the **External Data tab**. **Import** and **Append** the **Excel** file **a01F_Recruiting_Events** to the **Events** table. **Open** the **Navigation Pane**, organize the objects by **Tables and Related Views**, and then **Open** your **Events** table to view 13 records. **Close** the **Navigation Pane**. Apply **Best Fit** to all of the fields, **Save** the table, and then **Close** the table.

4 **Create** a new table using the **Table** button. Click the **Click to Add arrow**, click **Text**, type **Location** and then press Enter. In the third column, click **Text**, type **Last Name** and then press Enter. In the fourth column, click **Text**, type **First Name** and then press Enter. In the fifth column, click **Text**, type **E-mail Address** and then press Enter. In the sixth column, click **Text**, type **Business Phone** and then press ↓.

5 Right-click the **ID** field name, and then **Rename** the field to **Recruiter ID** Change the **Data Type** to **Text**, and then enter the records as shown in **Table 2**.

6 Apply **Best Fit** to all of the columns. **Save** the table as **Lastname Firstname 1F Recruiting Contacts** and then **Close** the table.

7 From the **Navigation Pane**, open the **Current Events Report**. In the lower right corner of the status bar, click the **Layout View** button, click the title *Current Events*, and then click to position your insertion point to the left of *C*. Type your own name in the format **Lastname Firstname** Display the report in **Print Preview**, and then create a paper or electronic printout if instructed to do so. **Close** the **Print Preview**. **Close** the report and save the changes.

8 From the **Navigation Pane**, open your **1F Recruiting Contacts** table. Display the table in **Print Preview**, change to **Landscape** orientation, and then create a paper or electronic printout if instructed to do so. **Close** the **Print Preview**, and then **Close** the table. **Open** the **Navigation Pane** and, if necessary, increase the width of the pane so that your table name displays fully. From **Backstage** view, click **Close Database**, and then click **Exit**. As directed by your instructor, submit your database and the two paper or electronic printouts—one report and one table—that are the results of this project.

Table 1

ID	Title	Start Time	End Time	Description	Location
1	**Health Professions**	**6/1/16 8a**	**6/1/16 1p**	**Science Students**	**Washington HS**
2	**New Students**	**6/1/16 6p**	**6/1/16 9p**	**College Fair**	**Jefferson HS**
3	**Information Technology**	**6/2/16 9a**	**6/2/16 1p**	**Technical Students**	**Madison Technical Center**
4	**New Students**	**6/2/16 2p**	**6/2/16 5p**	**Open House**	**Central Campus**

Return to Step 3

Table 2

Recruiter ID	Location	Last Name	First Name	E-mail Address	Business Phone
R-01	**Washington HS**	**Luiz**	**Penelope**	**pluiz@washhs.sch**	**(202) 555-3410**
R-02	**Jefferson HS**	**Hart**	**Robert**	**rlhart@jeffhs.sch**	**(571) 555-1938**
R-03	**Madison Technical Center**	**Sedlacek**	**Belinda**	**bsedlacek@madihs.sch**	**(703) 555-0471**
R-04	**Central Campus**	**Monroe**	**Stephen**	**smonroe@capccc.edu**	**(571) 555-2387**

Return to Step 6

End **You have completed Project 1F**

Content-Based Assessments

Apply 1A and 1B skills from these Objectives:

1. Identify Good Database Design
2. Create a Table and Define Fields in a New Database
3. Change the Structure of Tables and Add a Second Table
4. Create and Use a Query, Form, and Report
5. Save and Close a Database
6. Create a Database Using a Template
7. Organize Objects in the Navigation Pane
8. Create a New Table in a Database Created with a Template
9. Print a Report and a Table in a Database Created with a Template

myitlab grader

Mastering Access | Project 1G Campus Expansion

In the following Mastering Access project, you will create one database to store information about the campus expansion for Capital Cities Community College and a second database to store information about the public events related to the expansion projects. Your completed database objects will look similar to Figure 1.53.

Project Files

For Project 1G, you will need the following files:

New blank Access database
a01G_Projects (Excel workbook)
a01G_Contractors (Excel workbook)
New Access database using the Events template

You will save your databases as:

Lastname_Firstname_1G_Campus_Expansion
Lastname_Firstname_1G_Public_Events

Project Results

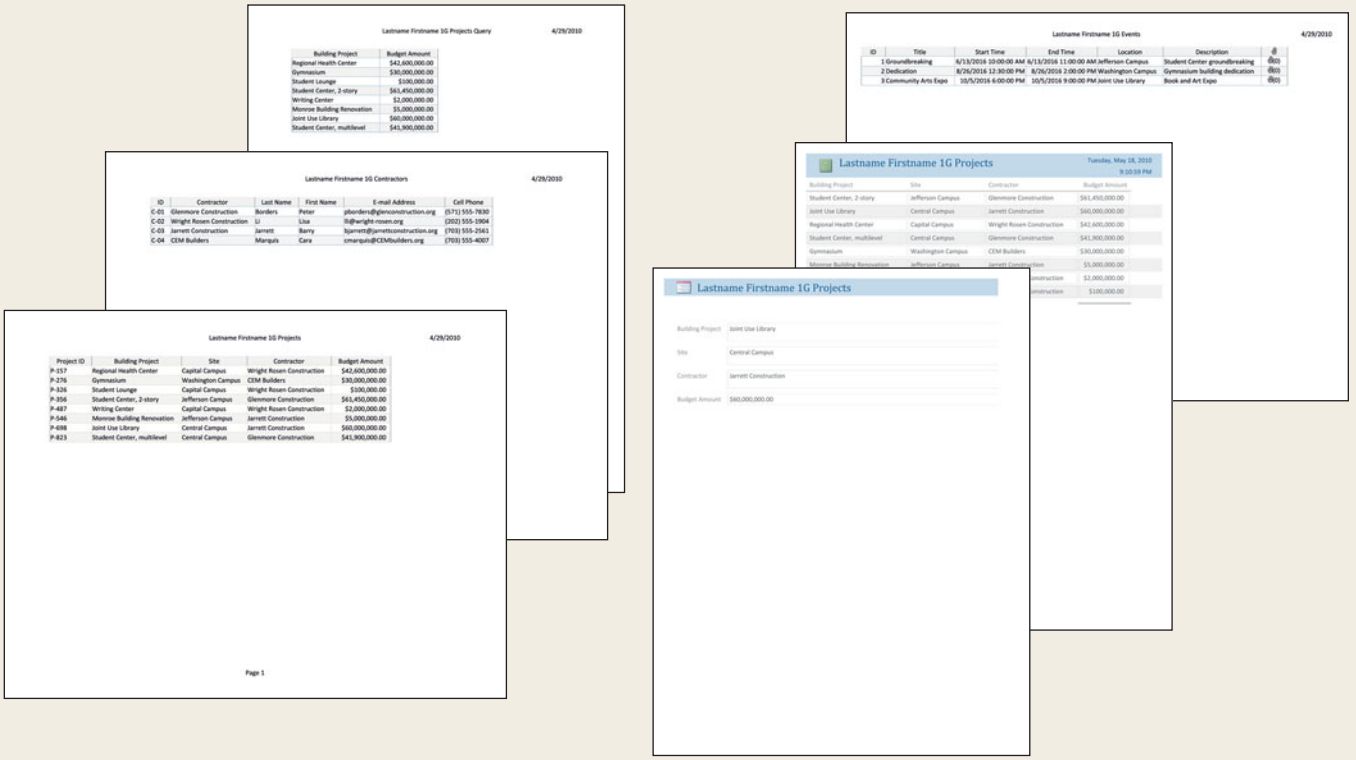


Figure 1.53

(Project 1G Campus Expansion continues on the next page)

Content-Based Assessments

Mastering Access | Project 1G Campus Expansion (continued)

1 **Start** Access. Create a new **Blank database** in your **Access Chapter 1** folder. Name the database **Lastname_Firstname_1G_Campus_Expansion** and then **Close** the **Navigation Pane**. Create the additional fields shown in **Table 1**.

2 Change the **ID** field name to **Project ID** and change its **Data Type** to **Text**. Add the three records shown in **Table 2**.

3 **Save** the table as **Lastname Firstname 1G Projects** and then **Close** the table. **Import** and **Append** the **Excel** file **a01G_Projects** to the **1G Projects** table. Then, from the **Navigation Pane**, open your **1G Projects** table—8 total records display. **Close** the **Navigation Pane**.

4 In **Design** view, click in the **Project ID** field, change the **Field Size** to **5** and as the **Description** type **Enter Project ID using the format P-###** Switch to **Datasheet** view, and save by clicking **Yes** two times. Apply **Best Fit** to all of the fields in the table, **Save** the table, and then display it in **Print Preview**. Set the orientation to **Landscape**—one page results. Create a paper or electronic printout as directed by your instructor, and then **Close** the table.

5 From the **External Data tab**, import the **Excel** file **a01G_Contractors** into the database as a new table; use the first row as the column headings and set the **ID** field as the primary key. In the final Wizard dialog box, name the table **Lastname Firstname 1G Contractors** and then **Open** the new table in **Datasheet** view. Apply **Best Fit** to all of the fields, **Save** the table, and then display the table in **Print Preview**. Set the orientation to **Landscape**—one page results. Create a paper or electronic printout as directed, and then **Close** the table.

6 **Create**, by using the **Query Wizard**, a **Simple Query** based on your **1G Projects** table. Include only the appropriate fields to answer the question *For every Building Project, what is the Budget Amount?* Create the query and save it with the default name. Create a paper or electronic printout as directed, and then **Close** the query.

7 Open your **1G Projects** table, and then **Create** a **Form** for this table. Save the form as **Lastname Firstname 1G Projects Form** Display and select the seventh record, and then by using the instructions in Activity 1.15, print or create an electronic printout of this record as directed. **Close** the form object, saving changes to it.

8 With the **1G Projects** table open and active, **Create** a **Report**. **Delete** the **Project ID** field. Sort the records in **Descending** order by the **Budget Amount** field—Access automatically totals this field. Adjust the field widths on the left and right as necessary so that the fields display within the margins of the report. At the bottom of the report, delete the **page number**, and then delete the total that displays in the **Budget Amount** column. **Save** the report as **Lastname Firstname 1G Projects Report** and then create a paper or electronic printout as directed.

9 **Close All** open objects. If necessary, **Open** the **Navigation Pane** and widen the pane so that all object names display fully. Display **Backstage** view, and then click **Close Database**. Do *not* exit Access.

Table 1

Data Type		Text	Text	Text	Currency
Field Name	ID	**Building Project**	**Site**	**Contractor**	**Budget Amount**

Return to Step 2

Table 2

Project ID	Building Project	Site	Contractor	Budget Amount
P-356	**Student Center, 2-story**	**Jefferson Campus**	**Glenmore Construction**	**61450000**
P-823	**Student Center, multilevel**	**Central Campus**	**Glenmore Construction**	**41900000**
P-157	**Regional Health Center**	**Capital Campus**	**Wright Rosen Construction**	**42600000**

Return to Step 3

(Project 1G Campus Expansion continues on the next page)

Mastering Access | Project 1G Campus Expansion (continued)

10 From **Sample templates**, create a new database using the **Events** template. **Save** the database in your **Access Chapter 1** folder, and as the file name, type **Lastname_Firstname_1G_Public_Events** If necessary, enable the content. Enter the records in **Table 3** by using the displayed Multiple Items Event List form or the single-record form, which is available by clicking New Event above the field names row.

11 **Close** the **Event List** form. Open the **Navigation Pane**, and then by using the **Navigation Pane arrow**, arrange the database objects by **Tables and Related Views**. Point to the **Events: Table** object, right-click, click **Rename**, and then using your own name, type **Lastname Firstname 1G Events** Press Enter and then widen the Navigation Pane if necessary.

12 **Open** the **1G Events** table, **Close** the **Navigation Pane**, and then apply **Best Fit** to all of the columns. **Save** the table, display it in **Print Preview**, change the orientation to **Landscape**, set the **Margins** to **Normal**, and then create a paper or electronic printout as directed. **Close** all open objects. **Open** the **Navigation Pane**, display **Backstage** view, click **Close Database**, and then click **Exit**. As directed by your instructor, submit your database and the six paper or electronic printouts—three tables, one query, one form, and one report—that are the results of this project.

Table 3

ID	Title	Start Time	End Time	Description	Location
1	**Groundbreaking**	**6/13/16 10a**	**6/13/16 11a**	**Student Center groundbreaking**	**Jefferson Campus**
2	**Dedication**	**8/26/16 12:30p**	**8/26/16 2p**	**Gymnasium building dedication**	**Washington Campus**
3	**Community Arts Expo**	**10/5/16 6p**	**10/5/16 9p**	**Book and Art Expo**	**Joint Use Library**

Return to Step 11

End **You have completed Project 1G**

Content-Based Assessments

Apply a combination of the 1A and 1B skills.

GO! Fix It | Project 1H Scholarships

Project Files

For Project 1H, you will need the following file:

a01H_Scholarships

You will save your database as:

Lastname_Firstname_1H_Scholarships

In this project, you will make corrections to and update an Access database that will store information about scholarships awarded to students. Start Access. In Backstage view, click Open, navigate to your student files, and then open the file a01H_Scholarships. With the database open, display Backstage view. Click Save Database As, and in the Save As dialog box, navigate to your Access Chapter 1 folder, name the file **Lastname_Firstname_1H_Scholarships** and then click Save. In the message bar, click the Enable Content button.

To complete the project you must find and correct errors in field names, data types, data design, and column widths. You should know:

- The table name should be renamed **Lastname Firstname 1H Scholarships**
- In the table, all of the data in the fields and the field names should display fully.
- Three fields in the table have incorrect data types.
- The field that represents the unique value for each record should be set as the primary key.
- In one of the records, there is a data entry error involving an athlete's name; after correcting the entry, be sure to click in another record so that the record you edit is saved.
- When open, the Navigation Pane should fully display the table name.
- A query should be created for the 1H Scholarships table that answers the question *What is the Amount, Sport, First Name, and Last Name of every athlete receiving a scholarship?* Apply Best Fit to the query results.
- Using the table, a report should be created that includes the Amount, Sport, Award Date, and the last and first name of the athlete. Sort the report in descending order by the amount and then adjust the column widths so that the fields display within the margins of the report. At the bottom of the report, delete the total for the Amount field, and then delete the page number and save with the default name.

If directed to do so, create a paper or electronic printout of the table, the query, and the report. The table should use Landscape orientation, and the query and report should use Portrait orientation. Be sure that the report prints on one page.

End **You have completed Project 1H**

Content-Based Assessments

Apply a combination of the 1A and 1B skills.

GO! Make It | Project 1I Theater Events

Project Files

For Project 1I, you will need the following file:

New Access database using the Events template

You will save your database as:

Lastname_Firstname_1I_Theater_Events

Using the Events database template, create the table of theater events shown in Figure 1.54 that the Performing Arts department will present or host for April. Name the database **Lastname_Firstname_1I_Theater_Events** Arrange the Navigation Pane by Tables and Related Views, rename the Events table **Lastname Firstname 1I Theater Events** and then widen the Navigation Pane so that all object names display fully. Open the table, apply Best Fit to all the columns, save the table, and then create a paper or electronic printout of the table as directed by your instructor. Use Landscape orientation and Normal margins.

Project Results

Lastname Firstname 1I Theater Events 4/29/2010

ID	Title	Start Time	End Time	Location	Description	
1	Symphony Orchestra Concert	4/2/2016 7:30:00 PM	4/2/2016 10:00:00 PM	Jefferson Campus	Opera soprano Barbara Botillini	(0)
2	The Big Band Concert	4/4/2016 7:30:00 PM	4/4/2016 9:00:00 PM	Capital Campus	The Ruth Mystic Big Band Concert	(0)
3	Chaos in the House	4/6/2016 3:00:00 PM	4/6/2016 5:00:00 PM	Central Campus	Gospel Show	(0)
4	Tom Sawyer	4/7/2016 7:00:00 PM	4/7/2016 10:00:00 PM	Washington Campus	CapCCC Players	(0)
5	Tom Sawyer	4/8/2016 3:00:00 PM	4/8/2016 6:00:00 PM	Washington Campus	CapCCC Players	(0)
6	Virginia Arts Festival	4/16/2016 8:00:00 PM	4/16/2016 10:00:00 PM	Jefferson Campus	Anika Shankar	(0)
7	Virginia Arts Festival	4/17/2016 7:00:00 PM	4/17/2016 9:00:00 PM	Central Campus	Music from the Crooked Elbow	(0)
8	College Awards Ceremony	4/22/2016 1:00:00 PM	4/22/2016 4:00:00 PM	Washington Campus	CapCCC Faculty and Staff Awards	(0)
9	Virginia Arts Festival	4/23/2016 7:30:00 PM	4/23/2016 10:00:00 PM	Capital Campus	Russian Folk Dance Spectacular	(0)
10	Music in Motion Dance	4/29/2016 1:00:00 PM	4/29/2016 3:00:00 PM	Central Campus	Dancing to Modern Music	(0)

Page 1

Figure 1.54

End You have completed Project 1I

Content-Based Assessments

Apply a combination of the 1A and 1B skills.

GO! Solve It | Project 1J Student Activities

Project Files

For Project 1J, you will need the following files:

New Access database using the Events template
a01J_Student_Activities (Word document)

You will save your database as:

Lastname_Firstname_1J_Student_Activities

Create a new database from the Events database template and name the database **Lastname_Firstname_1J_Student_Activities** Using the data in the a01J_Student_Activities Word document, enter the data into the Multiple Items form. Each event begins at 7 p.m. and ends at 9 p.m. After entering the records, close the form, arrange the Navigation Pane by Tables and Related Views, rename the table that stores the records as **Lastname Firstname 1J Activities** and then widen the Navigation Pane so that all object names display fully. Open the table, apply Best Fit to the columns, and then save the table. Display the table in Print Preview, and then use the proper commands to be sure that the table prints on one page with the table name at the top of the page. Print the table or submit electronically as directed.

		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 Elements	Create database and enter data	Database was created using the correct template and correct name. Data entered correctly.	Some but not all of the data was entered correctly.	Most of the data was entered incorrectly.
	Rename table and format table	Table named correctly and Best Fit applied to all columns.	Table named incorrectly and/or Best Fit not properly applied.	Incorrect table name and inadequate formatting applied to all columns.
	Create table printout	Printout displays on one page in Landscape orientation and the table name displays at the top.	The printout displays on two pages or the table name does not display at the top.	The printout displays on two pages and the table name does not display at the top of the page.

End **You have completed Project 1J**

Content-Based Assessments

Apply a combination of the 1A and 1B skills.

GO! Solve It | Project 1K Media Contacts

Project Files

For Project 1K, you will need the following files:

New blank Access database
a01K_Media_Contacts (Excel workbook)

You will save your database as:

Lastname_Firstname_1K_Media_Contacts

Create a new blank database and name the database **Lastname_Firstname_1K_Media_Contacts** Close the default Table1. Create a table by importing the a01K_Media_Contacts Excel workbook, use the first row as the column headings, and use Media ID as the Primary Key. Name the table **Lastname Firstname 1K Media Contacts** Modify the table design by creating separate fields for the Contact's first name and last name, and then adjust the data accordingly. Apply Best Fit to the columns, and then save the table. Display the table in Print Preview, and then use the Page Layout commands to display the table on one page, being sure the table name prints at the top of the page. Print the table or submit electronically as directed.

Create a simple query that answers the following question: *What are the Publication name, first name, last name, and E-mail address for all of the media contacts?* Accept the default name, apply Best Fit to all of the columns, and then create a paper or electronic printout on one page as directed.

Create a report and delete the Media ID column. Adjust the widths of the remaining fields so that all of the data displays within the margins of the report. Sort the report in ascending order by the Publication field. In Layout View, select the report title, and then on the Format tab, in the Font group, change the font of the title of the report to 14. At the bottom of the report, delete the page number. Save the report as **Lastname Firstname 1K Media Contacts Report** and then create a paper or electronic printout as directed. Arrange the Navigation Pane by Tables and Related Views, and then widen the Navigation Pane so that all object names display fully.

		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 Elements	Create database, import data to create a table, and then modify the table design	Table created by importing from an Excel workbook, fields correctly modified, and primary key field identified.	Table created by importing from an Excel workbook, but fields are incorrect, or primary key field is incorrect.	Table created by importing from an Excel workbook, but both fields and primary key are incorrect.
	Create query	Query created, named correctly, answers the question, formatted correctly.	Query created, but does not completely answer the question or formatted incorrectly.	Query does not answer the question and also includes errors in formatting.
	Create report	Report created, Media ID field deleted, field sizes adjusted, sorted by Publication, correctly named, and formatted.	Report created with some errors in fields, report name, sorting, or formatting.	Report created with numerous errors in fields, report name, sorting, or formatting.

End **You have completed Project 1K**

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 1A and 1B skills.

GO! Think | Project 1L Student Clubs

Project Files

For Project 1L, you will need the following files:

New blank Access database
a01L_Clubs (Word file)
a01L_Student_Clubs (Excel file)
a01L_Club_Presidents (Excel file)

You will save your database as:

Lastname_Firstname_1L_Student_Clubs

Kirsten McCarty, Vice President of Student Services, needs a database that tracks information about student clubs. The database should contain two tables, one for club information and one for contact information for the club presidents.

Create a new blank database and name it **Lastname_Firstname_1L_Student_Clubs** Using the information provided in the a01L_Clubs Word document, create the first table with two records to store information about the clubs. Then import 23 records from the a01L_Student_Clubs Excel file. Create a second table by importing 25 records from the a0lL_Club_Presidents Excel file. Name the tables appropriately and include your name. Be sure the data types are correct and the records are entered correctly. Apply Best Fit to all of the columns.

Create a simple query based on the Clubs table that answers the following question: *What are the Club Name, Meeting Day, Meeting Time, and Room ID for all of the clubs?* Based on the Clubs table, create a form. Create a report based on the Presidents of the clubs that lists the Last Name (in ascending order), First Name, and Phone number of every president. Print the two tables, the seventh record in Form view, the query, and the report being sure that each object prints on one page, or submit electronically as directed. Group objects on the Navigation Pane by Tables and Related Views. On the Navigation Pane, be sure that all object names display fully.

End **You have completed Project 1L**

Apply a combination of the 1A and 1B skills.

GO! Think | Project 1M Faculty Training

Project Files

For Project 1M, you will need the following file:

New Access database using the Events template
a01M_Faculty_Training (Word file)

You will save your database as:

Lastname_Firstname_1M_Faculty_Training

Use the information provided in the a01M_Faculty_Training Word file to create a database using the Events database template. Name the database **Lastname_Firstname_1M_Faculty_Training** Use the information in the Word file to enter the records. Training times begin at 11:30 a.m. and end at 1 p.m. Arrange the Navigation Pane by Tables and Related Views, and rename the Events table appropriately to include your name. Display the All Events report in Layout View and insert your Lastname Firstname in front of the report title *All Events*. Print the table and the All Events report or submit electronically as directed.

End **You have completed Project 1M**

Outcomes-Based Assessments

Apply a combination of the 1A and 1B skills.

You and GO! | Project 1N Personal Contacts

Project Files

For Project 1N, you will need the following file:

New blank Access database

You will save your database as:

Lastname_Firstname_1N_Personal_Contacts

Create a database that stores information about your personal contacts, such as friends and family members. Name the database **Lastname_Firstname_1N_Personal_Contacts** Include a field for a birthday. Enter at least 10 records in the table, and name the table **Lastname Firstname 1N Personal Contacts** Create a query that includes at least three of the fields in the table in the result; for example, a list of names and phone numbers. Create a report that includes the name and address for each contact. Print the table, query, and report, making sure that the data for each object prints on one page, or submit electronically as directed.

End **You have completed Project 1N**