Getting Started with Access 2013

CASE ▶ Samantha Hooper is the tour developer for United States group travel at Quest Specialty Travel (QST), a tour company that specializes in customized group travel packages. Samantha uses Microsoft Access 2013 to store, maintain, and analyze customer and tour information.

Unit Objectives

After completing this unit, you will be able to:

- Understand relational databases
- Explore a database
- Create a database
- Create a table
- Create primary keys
- Relate two tables
- Enter data
- Edit data

Files You Will Need

QuestTravel-A.accdb
RealEstate-A.accdb
Recycle-A.accdb
BusinessContacts-A.accdb
Basketball-A.accdb

Understand Relational Databases

Microsoft Access 2013 is relational database software that runs on the Windows operating system. You use **relational database software** to manage data that is organized into lists, such as information about customers, products, vendors, employees, projects, or sales. Many small companies track customer, inventory, and sales information in a spreadsheet program such as Microsoft Excel. Although Excel offers some list management features and is more commonly used than Access, Access provides many more tools and advantages for managing data. The advantages are mainly due to the "relational" nature of the lists that Access manages. **TABLE A-1** compares the two programs. **CASE** *You and Samantha Hooper review the advantages of database software over spreadsheets for managing lists of information.*

DETAILS

The advantages of using Access for database management include:

- **Duplicate data is minimized**

   FIGURES A-1 and **A-2** compare how you might store sales data in a single Excel spreadsheet list versus three related Access tables. With Access, you do not have to reenter information such as a customer's name and address or tour name every time a sale is made, because lists can be linked, or "related," in relational database software.

- **Information is more accurate, reliable, and consistent because duplicate data is minimized**

   The relational nature of data stored in an Access database allows you to minimize duplicate data entry, which creates more accurate, reliable, and consistent information. For example, customer data in a Customers table is entered only once, not every time a customer makes a purchase.

- **Data entry is faster and easier using Access forms**

   Data entry forms (screen layouts) make data entry faster, easier, and more accurate than entering data in a spreadsheet.

- **Information can be viewed and sorted in many ways using Access queries, forms, and reports**

   In Access, you can save queries (questions about the data), data entry forms, and reports, allowing you to use them over and over without performing extra work to re-create a particular view of the data.

- **Information is more secure using Access passwords and security features**

   Access databases can be encrypted and password protected.

- **Several users can share and edit information at the same time**

   Unlike spreadsheets or word-processing documents, more than one person can enter, update, and analyze data in an Access database at the same time.

FIGURE A-1: Using a spreadsheet to organize sales data

	A	B	C	D	E	F	G	H	I
1	CustNo	FName	LName	SalesNo	SaleDate	TourName	TourStartDate	City	Price
2	1	Gracita	Mayberry	35	7/1/2014	Red Reef Scuba	7/6/2014	Islamadora	1,500.00
3	2	Jacob	Alman	34	7/1/2014	Red Reef Scuba	7/6/2014	Islamadora	1,500.00
4	3	Julia	Bouchart	33	7/1/2014	Red Reef Scuba	7/6/2014	Islamadora	1,500.00
5	3	Julia	Bouchart	7	5/1/2014	Piper-Heitman Wedding	5/30/2014	Captiva	825.00
6	4	Jane	Taylor	13	5/11/2014	Red Reef Scuba	7/6/2014	Islamadora	1,500.00
7	4	Jane	Taylor	20	6/1/2014	American Heritage Tour	8/24/2014	Philadelphia	1,200.00
8	5	Samantha	Braven	30	7/1/2014	Red Reef Scuba	7/6/2014	Islamadora	1,500.00
9	5	Samantha	Braven	52	7/11/2014	Bright Lights Expo	12/1/2014	Branson	200.00
10	6	Kristen	Collins	3	4/30/2014	Ames Ski Club	1/2/2015	Breckenridge	850.00
11	6	Kristen	Collins	21	6/1/2014	Yosemite National Park Great Cleanup	7/20/2014	Sacramento	1,100.00
12	6	Kristen	Collins	29	7/1/2014	American Heritage Tour	8/24/2014	Philadelphia	1,200.00
13	6	Kristen	Collins	40	7/7/2014	Bright Lights Expo	12/1/2014	Branson	200.00
14	7	Tom	Camel	41	7/7/2014	Bright Lights Expo	12/1/2014	Branson	200.00
15	7	Tom	Camel	36	7/1/2014	American Heritage Tour	8/24/2014	Philadelphia	1,200.00
16	7	Tom	Camel	8	5/1/2014	Ames Ski Club	1/2/2015	Breckenridge	850.00
17	7	Tom	Camel	19	6/1/2014	Yosemite National Park Great Cleanup	7/20/2014	Sacramento	1,100.00
18	8	Dick	Tracy	43	7/8/2014	Bright Lights Expo	12/1/2014	Branson	200.00
19	9	Daniel	Cabriella	45	7/9/2014	American Heritage Tour	8/24/2014	Philadelphia	1,200.00
20	9	Daniel	Cabriella	46	7/9/2014	Bright Lights Expo	12/1/2014	Branson	200.00
21	10	Brad	Eahlie	66	7/14/2014	Boy Scout Jamboree	1/13/2015	Vail	1,900.00
22	11	Nancy	Diverman	32	7/1/2014	Red Reef Scuba	7/6/2014	Islamadora	1,500.00

Customer information is duplicated when the same customer purchases multiple tours

Tour information is duplicated when the same tour is purchased by multiple customers

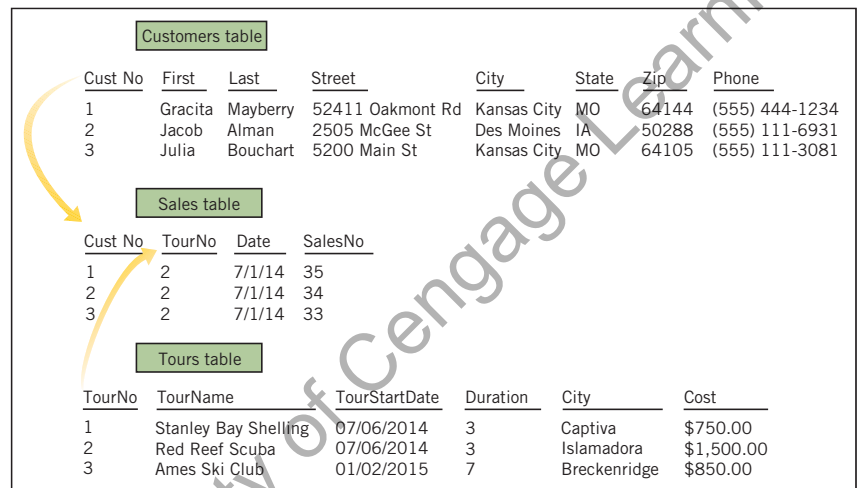**FIGURE A-2:** Using a relational database to organize sales data

Customers table

Cust No	First	Last	Street	City	State	Zip	Phone
1	Gracita	Mayberry	52411 Oakmont Rd	Kansas City	MO	64144	(555) 444-1234
2	Jacob	Alman	2505 McGee St	Des Moines	IA	50288	(555) 111-6931
3	Julia	Bouchart	5200 Main St	Kansas City	MO	64105	(555) 111-3081

Sales table

Cust No	TourNo	Date	SalesNo
1	2	7/1/14	35
2	2	7/1/14	34
3	2	7/1/14	33

Tours table

TourNo	TourName	TourStartDate	Duration	City	Cost
1	Stanley Bay Shelling	07/06/2014	3	Captiva	$750.00
2	Red Reef Scuba	07/06/2014	3	Islamadora	$1,500.00
3	Ames Ski Club	01/02/2015	7	Breckenridge	$850.00

TABLE A-1: Comparing Excel with Access

feature	Excel	Access
Layout	Provides a natural tabular layout for easy data entry	Provides a natural tabular layout as well as the ability to create customized data entry screens called forms
Storage	Restricted to a file's limitations	Virtually unlimited when coupled with the ability to use Microsoft SQL Server to store data
Linked tables	Manages single lists of information—no relational database capabilities	Relates lists of information to reduce data redundancy and create a relational database
Reporting	Limited	Provides the ability to create an unlimited number of reports
Security	Limited to file security options such as marking the file "read-only" or protecting a range of cells	When used with SQL Server, provides extensive security down to the user and data level
Multiuser capabilities	Not allowed	Allows multiple users to simultaneously enter and update data
Data entry	Provides limited data entry screens	Provides the ability to create an unlimited number of data entry forms

Explore a Database

You can start Access in many ways. If you double-click an existing Access *database* icon or shortcut, that specific database will open directly within Access. This is the fastest way to open an *existing* Access database. If you start Access on its own, however, you see a window that requires you to make a choice between opening a database and creating a new database. **CASE** ▸ *Samantha Hooper has developed a database called QuestTravel-A, which contains tour information. She asks you to start Access 2013 and review this database.*

STEPS

1. **Start Access**

   Access starts, as shown in **FIGURE A-3**. This window allows you to open an existing database, create a new database from a template, or create a new blank database.

2. **Click the Open Other Files link, navigate to the location where you store your Data Files, click the QuestTravel-A.accdb database, click Open, then click the Maximize button ☐ if the Access window is not already maximized**

   The QuestTravel-A.accdb database contains five tables of data named Customers, Sales, States, TourCategories, and Tours. It also contains six queries, six forms, and four reports. Each of these items (table, query, form, and report) is a different type of **object** in an Access database and is displayed in the **Navigation Pane**. The purpose of each object is defined in **TABLE A-2**. To learn about an Access database, you explore its objects.

3. **In the Navigation Pane, double-click the Tours table to open it, then double-click the Customers table to open it**

   The Tours and Customers tables open to display the data they store. A **table** is the fundamental building block of a relational database because it stores all of the data. You can enter or edit data in a table.

4. **In the Navigation Pane, double-click the TourSales query to open it, double-click any occurrence of Heritage (as in American Heritage Tour), type Legacy, then click any other row**

   A **query** selects a subset of data from one or more tables. In this case, the TourSales query selects data from the Tours, Sales, and Customers tables. Editing data in one object changes that information in every other object of the database, demonstrating the power and productivity of a relational database.

5. **Double-click the CustomerRoster form to open it, double-click Tour in "American Legacy Tour," type Rally, then click any name in the middle part of the window**

   An Access **form** is a data entry screen. Users prefer forms for data entry (rather than editing and entering data in tables and queries) because information can be presented in an easy-to-use layout.

6. **Double-click the TourSales report to open it**

   An Access **report** is a professional printout. A report is for printing purposes only, not data entry. As shown in **FIGURE A-4**, the edits made to the American Legacy Rally tour name have carried through to the report.

7. **Click the Close button ☒ in the upper-right corner of the window**

   Clicking the Close button in the upper-right corner of the window closes Access as well as the database on which you are working. Changes to data, such as the edits you made to the American Legacy Rally tour, are automatically saved as you work. Access will prompt you to save *design* changes to objects before it closes.

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FIGURE A-3: Opening Microsoft Access 2013 window

Use Custom web app to create a Web-enabled database

Click a database name to open a recently used database; your list will differ

Click to browse for an Access database

Use Blank desktop database to create a new, local Access database

Use Templates to create a new Access database based on a template
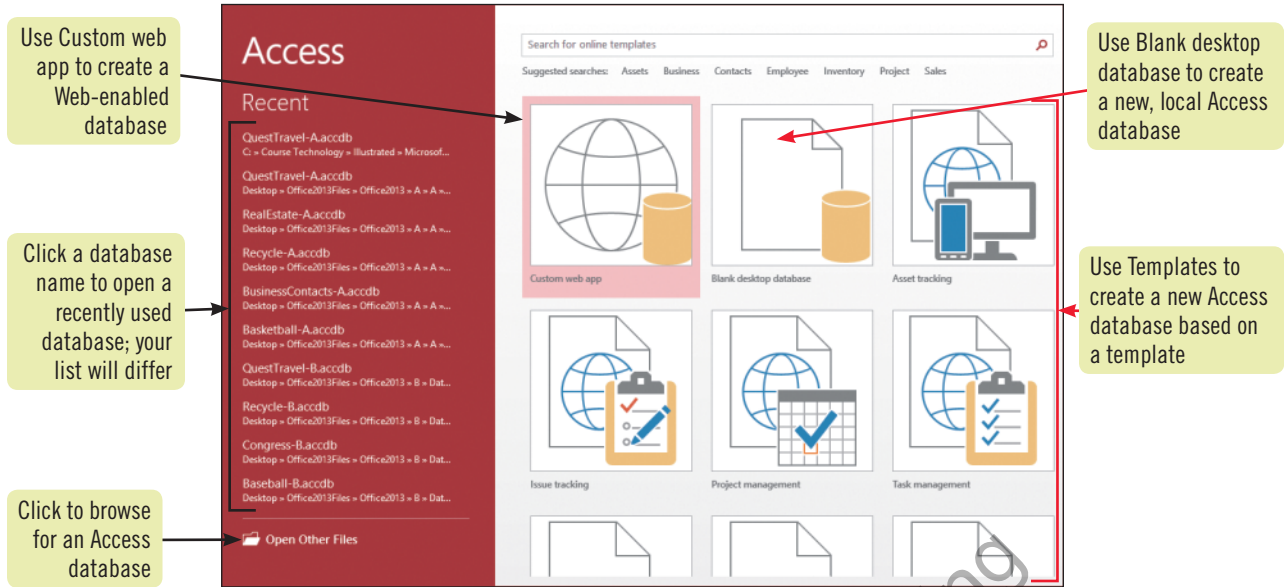
FIGURE A-4: Objects in the QuestTravel-A database

Shutter Bar Open/ Close button

Tours table tab

Navigation Pane

American Legacy Rally

Path to database; yours will differ

TourSales report tab

CustomerRoster form tab

TourSales query tab

Customers table tab
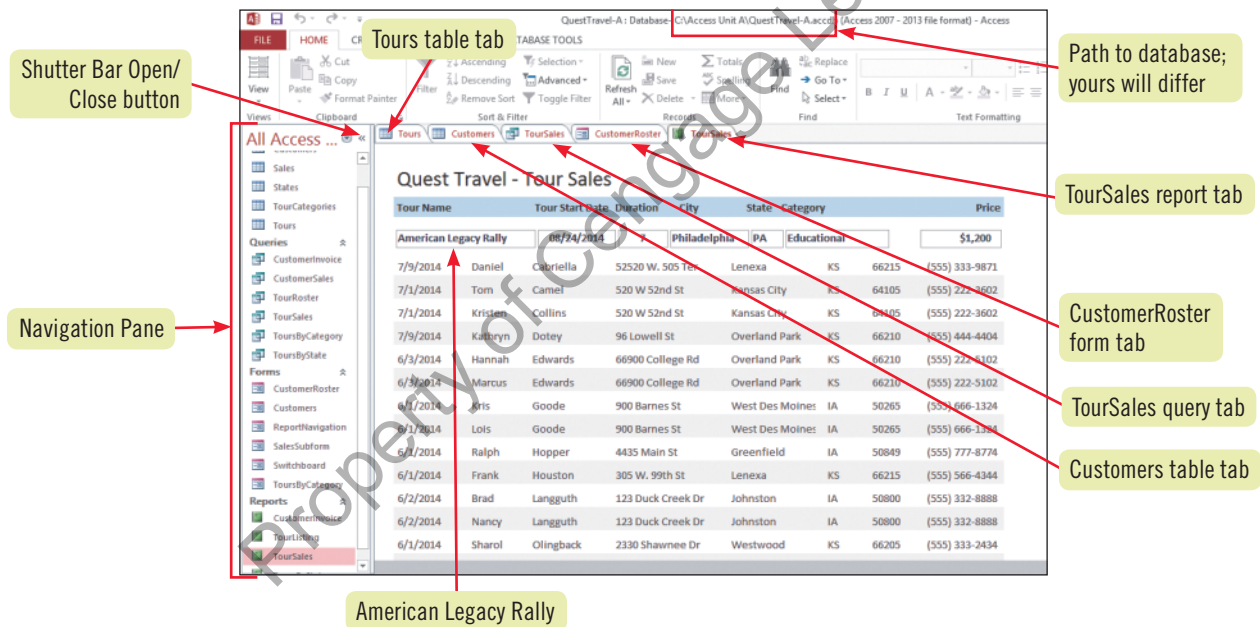
TABLE A-2: Access objects and their purpose

object	icon	purpose
Table		Contains all of the raw data within the database in a spreadsheet-like view; tables are linked with a common field to create a relational database, which minimizes redundant data
Query		Allows you to select a subset of fields or records from one or more tables; queries are created when you have a question about the data
Form		Provides an easy-to-use data entry screen
Report		Provides a professional printout of data that can contain enhancements such as headers, footers, graphics, and calculations on groups of records

Create a Database

Learning Outcomes
• Create a database
• Create a table
• Define key database terms

You can create a database using an Access **template**, a sample database provided within the Microsoft Access program, or you can start with a blank database to create a database from scratch. Your decision depends on whether Access has a template that closely resembles the type of data you plan to manage. If it does, building your own database from a template might be faster than creating the database from scratch. Regardless of which method you use, you can always modify the database later, tailoring it to meet your specific needs. **CASE** *Samantha Hooper reasons that the best way for you to learn Access is to start a new database from scratch, so she asks you to create a new database that will track customer communication.*

STEPS

1. **Start Access**

2. **Click the Blank desktop database icon, click the Browse button 📁, navigate to the location where you store your Data Files, type Quest in the File name box, click OK, then click the Create button**

   A new, blank database file with a single table named Table1 is created, as shown in **FIGURE A-5**. Although you might be tempted to start entering data into the table, a better way to build a table is to first define the columns, or **fields**, of data that the table will store. **Table Design View** provides the most options for defining fields.

3. **Click the View button ☑ on the FIELDS tab to switch to Design View, type Customers in the Save As dialog box as the new table name, then click OK**

   The table name changes from Table1 to Customers, and you are positioned in Table Design View, a window you use to name and define the fields of a table. Access created a field named ID with an AutoNumber data type. The **data type** is a significant characteristic of a field because it determines what type of data the field can store such as text, dates, or numbers. See **TABLE A-3** for more information about data types.

4. **Type CustID to rename ID to CustID, press [↓] to move to the first blank Field Name cell, type FirstName, press [↓], type LastName, press [↓], type Phone, press [↓], type Birthday, then press [↓]**

   Be sure to separate the first and last names into two fields so that you can easily sort, find, and filter on either part of the name later. The Birthday field will only contain dates, so you should change its data type from Short Text (the default data type) to Date/Time.

5. **Click Short Text in the Birthday row, click the list arrow, then click Date/Time**

   With these five fields properly defined for the new Customers table, as shown in **FIGURE A-6**, you're ready to enter data. You switch back to Datasheet View to enter or edit data. **Datasheet View** is a spreadsheet-like view of the data in a table. A **datasheet** is a grid that displays fields as columns and records as rows. The new **field names** you just defined are listed at the top of each column.

6. **Click the View button ▦ to switch to Datasheet View, click Yes when prompted to save the table, press [Tab] to move to the FirstName field, type *your* first name, press [Tab] to move to the LastName field, type *your* last name, press [Tab] to move to the Phone field, type 111-222-3333, press [Tab], type 1/32/1980, then press [Tab]**

   Because 1/32/1980 is not a valid date, Access does not allow you to make that entry and displays an error message, as shown in **FIGURE A-7**. This shows that selecting the best data type for each field in Table Design View before entering data in Datasheet View helps prevent data entry errors.

7. **Press [Esc], edit the Birthday entry for the first record to 1/31/1980, press [Tab], enter two more sample records using realistic data, right-click the Customers table tab, then click Close to close the Customers table**

FIGURE A-5: Creating a database with a new table

View (Design) button

Table1 tab

Quest database
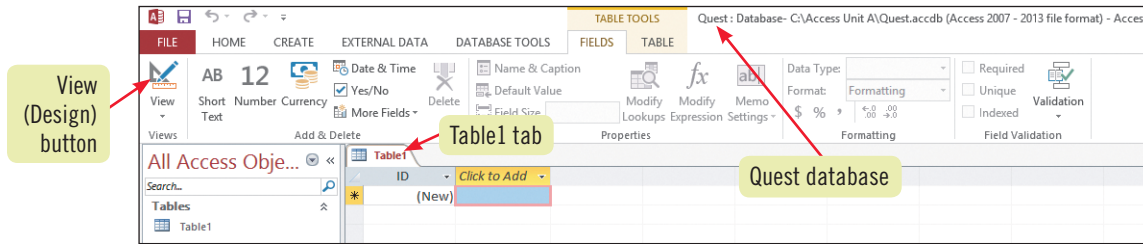
FIGURE A-6: Defining field names and data types for the Customers table in Table Design View

View (Datasheet) button

New field names

Customers table tab

Data type changed to Date/Time for the Birthday field
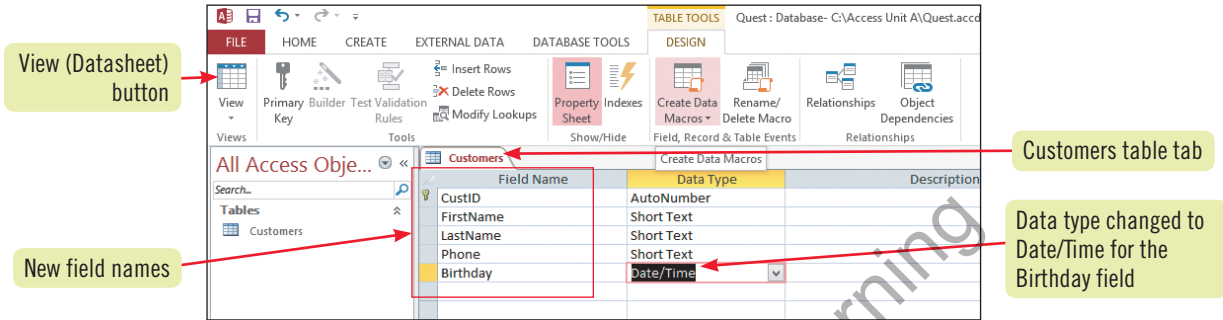
FIGURE A-7: Entering your first record in the Customers table

Field names

Invalid date creates an error message

Tab through the CustID field

Enter your first name

Enter your last name
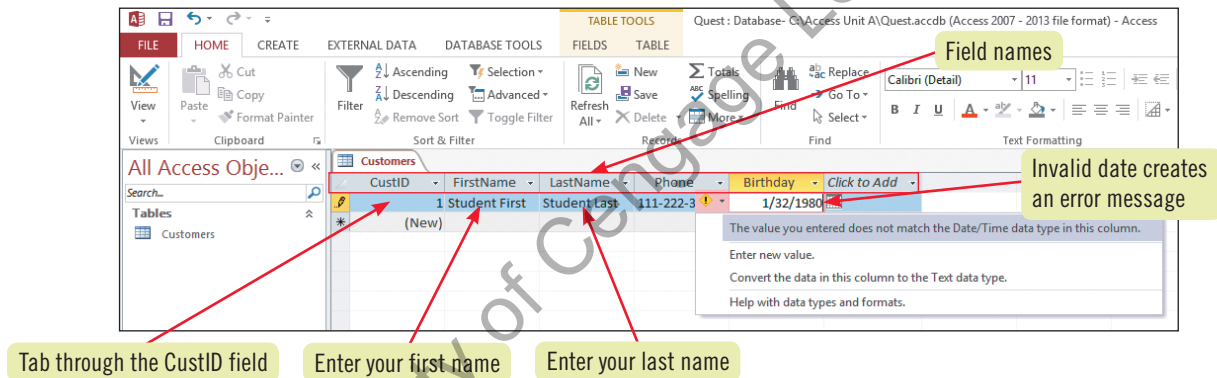
TABLE A-3: Data types

data type	description of data
Short Text	Text or numbers not used in calculations such as a name, zip code, or phone number
Long Text	Lengthy text greater than 255 characters, such as comments or notes
Number	Numeric data that can be used in calculations, such as quantities
Date/Time	Dates and times
Currency	Monetary values
AutoNumber	Sequential integers controlled by Access
Yes/No	Only two values: Yes or No
OLE Object	OLE (Object Linking and Embedding) objects such as an Excel spreadsheet or Word document
Hyperlink	Web and e-mail addresses
Attachment	External files such as .jpg images, spreadsheets, and documents
Calculated	Result of a calculation based on other fields in the table
Lookup Wizard	The Lookup Wizard helps you set Lookup properties, which display a drop-down list of values for the field; after using the Lookup Wizard, the final data type for the field is either Short Text or Number depending on the values in the drop-down list

Create a Table

After creating your database and first table, you need to create new, related tables to build a relational database. Creating a table consists of these essential tasks: defining the fields in the table, selecting an appropriate data type for each field, naming the table, and determining how the table will participate in the relational database. **CASE** *Samantha Hooper asks you to create another table to store customer comments. The new table will eventually be connected to the Customers table so each customer record in the Customers table may be related to many records in the Comments table.*

STEPS

1. **Click the CREATE tab on the Ribbon, then click the Table Design button in the Tables group**
   Design View is a view in which you create and manipulate the structure of an object.

2. **Enter the field names and data types, as shown in FIGURE A-8**
   The Comments table will contain four fields. CommentID is set with an AutoNumber data type so each record is automatically numbered by Access. The Comment field has a Long Text data type so a long comment can be recorded. CommentDate is a Date/Time field to identify the date of the comment. CustID has a Number data type and will be used to link the Comments table to the Customers table later.

3. **Click the View button 🔲 to switch to Datasheet View, click Yes when prompted to save the table, type Comments as the table name, click OK, then click No when prompted to create a primary key**
   A **primary key field** contains unique data for each record. You'll identify a primary key field for the Comments table later. For now, you'll enter the first record in the Comments table in Datasheet View. A **record** is a row of data in a table. Refer to **TABLE A-4** for a summary of important database terminology.

4. **Press [Tab] to move to the Comment field, type Interested in future tours to New Zealand, press [Tab], type 1/7/15 in the CommentDate field, press [Tab], then type 1 in the CustID field**
   You entered 1 in the CustID field to connect this comment with the customer in the Customers table that has a CustID value of 1. Knowing which CustID value to enter for each comment is difficult. After you relate the tables properly (a task you have not yet performed), Access can make it easier to link each comment to the correct customer.

5. **Point to the divider line between the Comment and CommentDate field names, and then drag the ╂ pointer to the right to widen the Comment field to read the entire comment, as shown in FIGURE A-9**

6. **Right-click the Comments table tab, click Close, then click Yes if prompted to save the table**

Creating a table in Datasheet View

You can also create a new table in Datasheet View using the commands on the FIELDS tab of the Ribbon. But if you use Design View to design your table before starting the data entry process, you will probably avoid some common data entry errors. Design View helps you focus on the appropriate data type for each field.

Selecting the best data type for each field before entering any data into that field helps prevent incorrect data and unintended typos. For example, if a field is given a Number, Currency, or Date/Time data type, you will not be able to enter text into that field by mistake.

FIGURE A-8: Creating the Comments table

Enter these field names →

Field Name	Data Type
CommentID	AutoNumber
Comment	Long Text
CommentDate	Date/Time
CustID	Number

← Enter these data types

FIGURE A-9: Entering the first record in the Comments table

CommentID	Comment	CommentDa	CustID
1	Interested in future tours to New Zealand	1/7/2015	1
* (New)			0

Tab through the CommentID field; AutoNumber fields automatically enter the next integer

Drag this pointer to the right to resize the Comment field

TABLE A-4: Important database terminology

term	description
Field	A specific piece or category of data such as a first name, last name, city, state, or phone number
Record	A group of related fields that describes a person, place, thing, or transaction such as a customer, location, product, or sale
Key field	A field that contains unique information for each record, such as a customer number for a customer
Table	A collection of records for a single subject such as Customers, Products, or Sales
Relational database	Multiple tables that are linked together to address a business process such as managing tours, sales, and customers at Quest Specialty Travel
Objects	The parts of an Access database that help you view, edit, manage, and analyze the data: **tables**, **queries**, **forms**, **reports**, **macros**, and **modules**

Access 2013

Create Primary Keys

The **primary key field** of a table serves two important purposes. First, it contains data that uniquely identifies each record. No two records can have the exact same entry in the field designated as the primary key field. Second, the primary key field helps relate one table to another in a **one-to-many relationship**, where one record from one table may be related to many records in the second table. For example, one record in the Customers table may be related to many records in the Comments table. (One customer may have many comments.) The primary key field is always on the "one" side of a one-to-many relationship between two tables. **CASE** *Samantha Hooper asks you to check that a primary key field has been appropriately identified for each table in the new Quest database.*

STEPS

1. **Right-click the Comments table in the Navigation Pane, then click Design View**

   Table Design View for the Comments table opens. The field with the AutoNumber data type is generally the best candidate for the primary key field in a table because it automatically contains a unique number for each record.

2. **Click the CommentID field if it is not already selected, then click the Primary Key button in the Tools group on the DESIGN tab**

   The CommentID field is now set as the primary key field for the Comments table, as shown in **FIGURE A-10**.

3. **Right-click the Comments table tab, click Close, then click Yes to save the table**

   Any time you must save design changes to an Access object such as a table, Access displays a dialog box to remind you to save the object.

4. **Right-click the Customers table in the Navigation Pane, then click Design View**

   Access has already set CustID as the primary key field for the Customers table, as shown in **FIGURE A-11**.

5. **Right-click the Customers table tab, then click Close**

   You were not prompted to save the Customers table because you did not make any design changes. Now that you're sure that each table in the Quest database has an appropriate primary key field, you're ready to link the tables. The primary key field plays a critical role in this relationship.

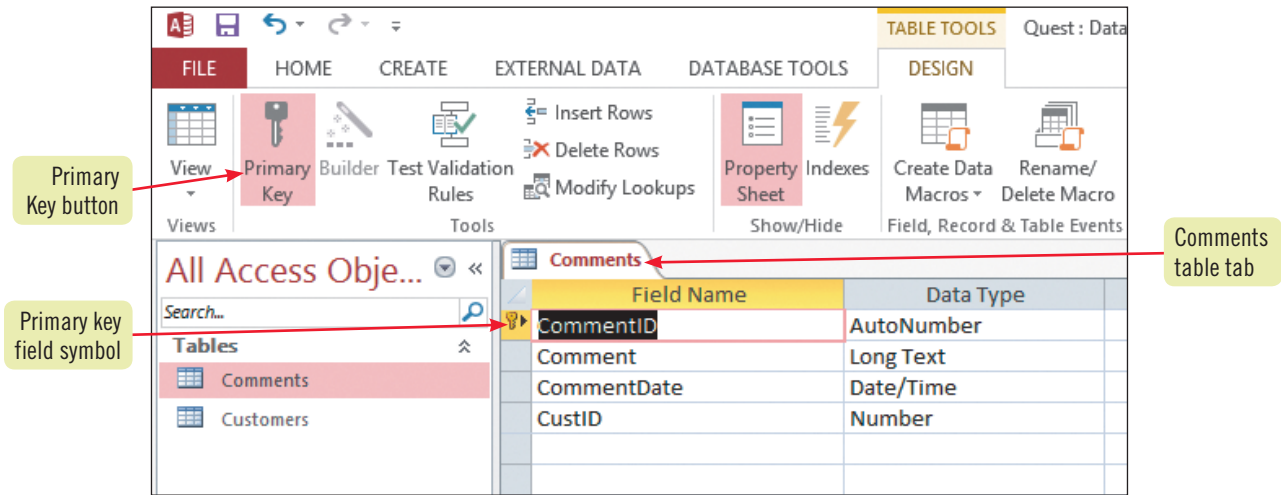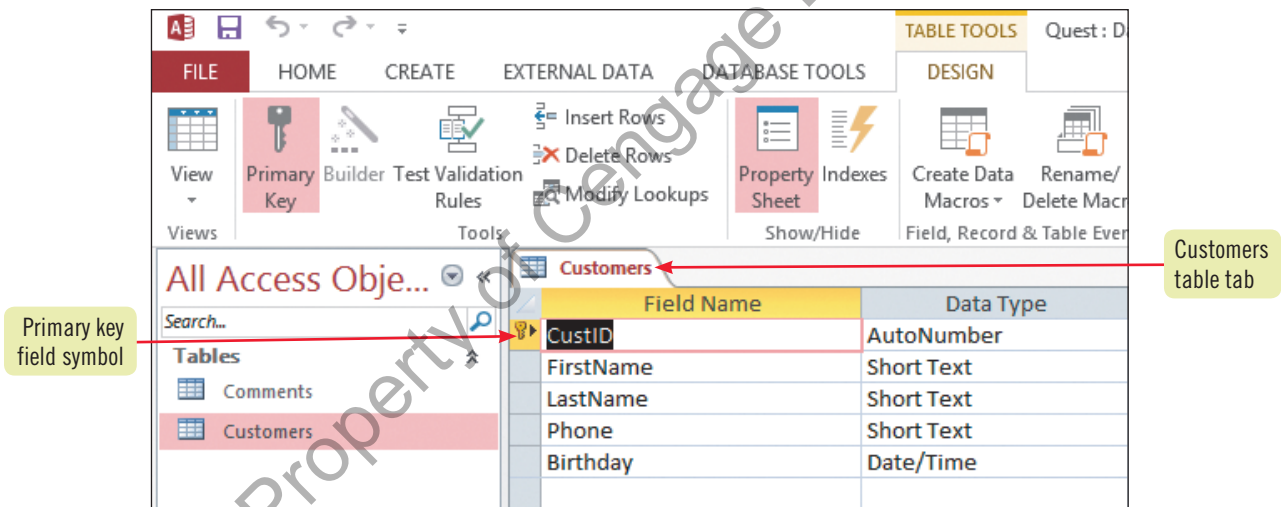**FIGURE A-10:** Creating a primary key field for the Comments table

Primary Key button →

Primary key field symbol →

Comments table tab

FIGURE A-11: Confirming the primary key field for the Customers table

Primary key field symbol →

Customers table tab

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Learning about field properties

Properties are the characteristics that define the field. Two properties are required for every field: Field Name and Data Type. Many other properties, such as Field Size, Format, Caption, and Default Value, are defined in the Field Properties pane in the lower half of a table's Design View. As you add more property entries, you are generally restricting the amount or type of data that can be entered in the field, which increases data entry accuracy. For example, you might change the Field Size property for a State field to 2 to eliminate an incorrect entry such as FLL. Field properties change depending on the data type of the selected field. For example, date fields do not have a Field Size property because Access controls the size of fields with a Date/Time data type.

Relate Two Tables

After you create tables and set primary key fields, you must connect the tables in one-to-many relationships to enjoy the benefits of a relational database. A one-to-many relationship between two tables means that one record from the first table is related to many records in the second table. You use a common field to make this connection. The common field is always the primary key field in the table on the "one" side of the relationship. **CASE** *Samantha Hooper explains that she has new comments to enter into the Quest database. To identify which customer is related to each comment, you define a one-to-many relationship between the Customers and Comments tables.*

STEPS

1. **Click the DATABASE TOOLS tab on the Ribbon, then click the Relationships button**

2. **In the Show Table dialog box, double-click Customers, double-click Comments, then click Close**

   Each table is represented by a small **field list** window that displays the table's field names. A key symbol identifies the primary key field in each table. To relate the two tables in a one-to-many relationship, you connect them using a common field, which is always the primary key field on the "one" side of the relationship.

3. **Drag CustID in the Customers field list to the CustID field in the Comments field list**

   The Edit Relationships dialog box opens, as shown in **FIGURE A-12**. **Referential integrity**, a set of Access rules that governs data entry, helps ensure data accuracy.

4. **Click the Enforce Referential Integrity check box in the Edit Relationships dialog box, then click Create**

   The **one-to-many line** shows the link between the CustID field of the Customers table (the "one" side) and the CustID field of the Comments table (the "many" side, indicated by the **infinity symbol**), as shown in **FIGURE A-13**. The linking field on the "many" side is called the **foreign key field**. Now that these tables are related, it is much easier to enter comments for the correct customer.

5. **Right-click the Relationships tab, click Close, click Yes to save changes, then double-click the Customers table in the Navigation Pane to open it in Datasheet View**

   When you relate two tables in a one-to-many relationship, expand buttons ⊞ appear to the left of each record in the table on the "one" side of the relationship. In this case, the Customers table is on the "one" side of the relationship.

6. **Click the expand button ⊞ to the left of the first record**

   A **subdatasheet** shows the related comment records for each customer. In other words, the subdatasheet shows the records on the "many" side of a one-to-many relationship. The expand button ⊞ also changed to the collapse button ⊟ for the first customer. Widening the Comment field allows you to see the entire entry in the Comments subdatasheet. Now the task of entering comments for the correct customer is much more straightforward.

7. **Enter two more comments, as shown in FIGURE A-14**

   Interestingly, the CustID field in the Comments table (the foreign key field) is not displayed in the subdatasheet. Behind the scenes, Access is entering the correct CustID value in the Comments table, which is the glue that ties each comment to the correct customer.

8. **Close the Customers table, then click Yes if prompted to save changes**
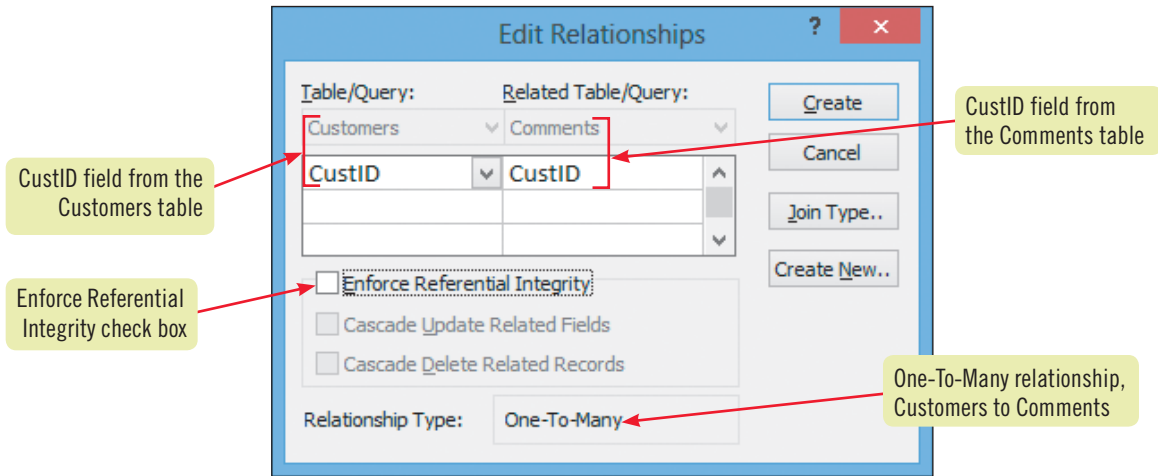
FIGURE A-12: Edit Relationships dialog box

CustID field from the Customers table

Enforce Referential Integrity check box

CustID field from the Comments table

One-To-Many relationship, Customers to Comments

FIGURE A-13: Linking the Customers and Comments tables

Relationships tab

Customers table field list

CustID is primary key field and the "one" side of the relationship

Comments table field list

CommentID is a primary key field

Number 1 identifies the field on the "one" side of the relationship

One-to-many relationship line

Infinity symbol identifies the field on the "many" side of the relationship

Property of Cengage Learning
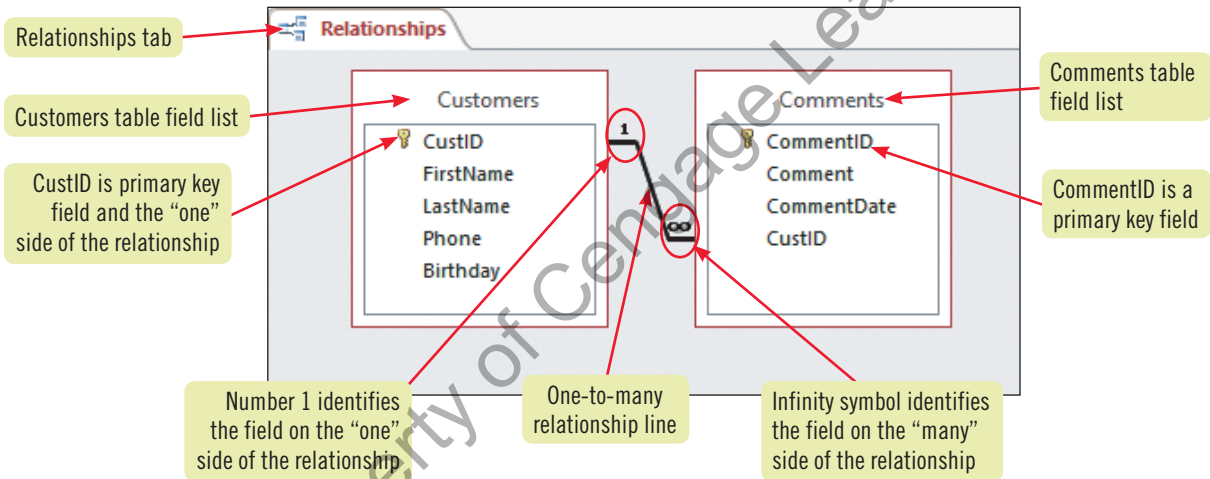
FIGURE A-14: Entering comments using the subdatasheet
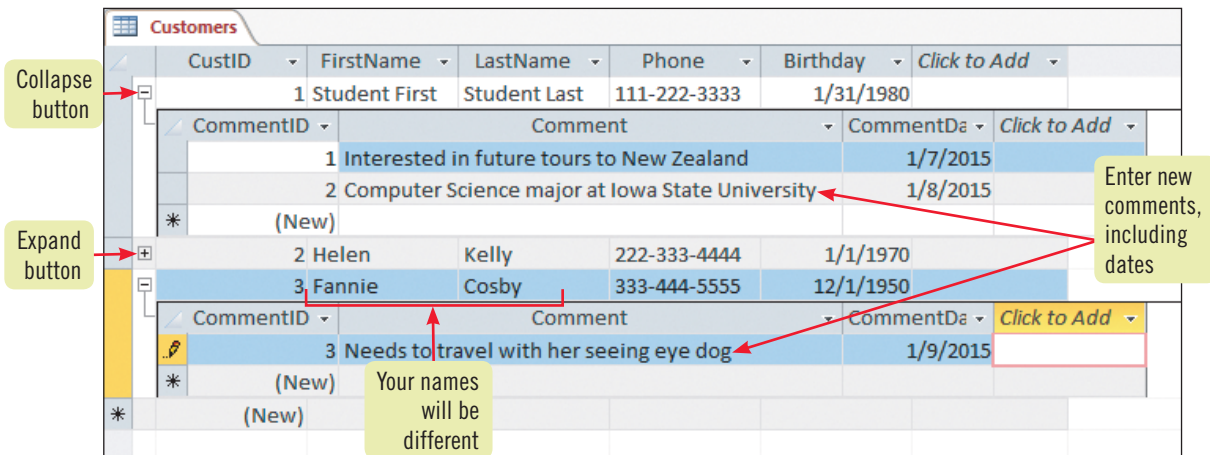
Collapse button

Expand button

Your names will be different

Enter new comments, including dates

Enter Data

Your skill in navigating and entering new records is a key to your success with a relational database. You can use many techniques to navigate through the records in the table's datasheet. **CASE** *Even though you have already successfully entered some records, Samantha Hooper asks you to master this essential skill by entering several more customers in the Quest database.*

STEPS

1. **Double-click the Customers table in the Navigation Pane to open it, press [Tab] three times, then press [Enter] three times**

   The Customers table reopens. The Comments subdatasheets are collapsed. Both the [Tab] and [Enter] keys move the focus to the next field. The **focus** refers to which data you would edit if you started typing. When you navigate to the last field of the record, pressing [Tab] or [Enter] advances the focus to the first field of the next record. You can also use the Next record ▶ and Previous record ◀ **navigation buttons** on the navigation bar in the lower-left corner of the datasheet to navigate through the records. The **Current record** text box on the navigation bar tells you the number of the current record as well as the total number of records in the datasheet.

2. **Click the FirstName field of the fourth record to position the insertion point to enter a new record**

   You can also use the New (blank) record button ▶* on the navigation bar to move to a new record. You enter new records at the end of the datasheet. You learn how to sort and reorder records later. A complete list of navigation keystrokes is shown in **TABLE A-5**.

3. **At the end of the datasheet, enter the three records shown in FIGURE A-15**

   The **edit record symbol** 🖉 appears to the left of the record you are currently editing. When you move to a different record, Access saves the data. Therefore, Access never prompts you to save *data* because it performs that task automatically. Saving data automatically allows Access databases to be **multiuser** databases, which means that more than one person can enter and edit data in the same database at the same time.

   Your CustID values might differ from those in **FIGURE A-15**. Because the CustID field is an **AutoNumber** field, Access automatically enters the next consecutive number into the field as it creates the record. If you delete a record or are interrupted when entering a record, Access discards the value in the AutoNumber field and does not reuse it. Therefore, AutoNumber values do not represent the number of records in your table. Instead, they provide a unique value per record, similar to check numbers.

Changing from Navigation mode to Edit mode

If you navigate to another area of the datasheet by clicking with the mouse pointer instead of pressing [Tab] or [Enter], you change from **Navigation mode** to Edit mode. In **Edit mode**, Access assumes that you are trying to make changes to the current field value, so keystrokes such as [Ctrl][End], [Ctrl][Home], [◄], and [►] move the insertion point within the field. To return to Navigation mode, press [Tab] or [Enter] (thus moving the focus to the next field), or press [▲] or [▼] (thus moving the focus to a different record).
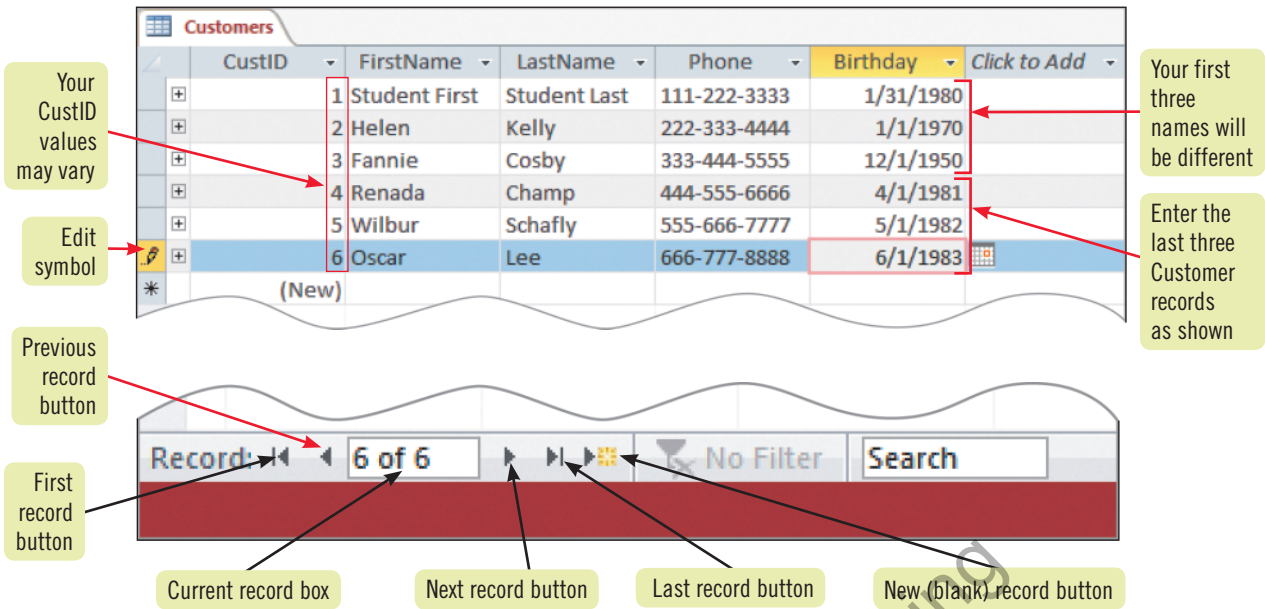
FIGURE A-15: New records in the Customers table

Your CustID values may vary

Edit symbol

Previous record button

First record button

Current record box

Next record button

Last record button

New (blank) record button

Your first three names will be different

Enter the last three Customer records as shown

TABLE A-5: Navigation mode keyboard shortcuts

shortcut key	moves to the
[Tab], [Enter], or [→]	Next field of the current record
[Shift][Tab] or [←]	Previous field of the current record
[Home]	First field of the current record
[End]	Last field of the current record
[Ctrl][Home] or [F5]	First field of the first record
[Ctrl][End]	Last field of the last record
[↑]	Current field of the previous record
[↓]	Current field of the next record

Cloud computing

Using SkyDrive, a free service from Microsoft, you can store files in the "cloud" and retrieve them anytime you are connected to the Internet. Saving your files to the SkyDrive is one example of cloud computing. **Cloud computing** means you are using an Internet resource to complete your work. You can find more information in the "Working in the Cloud" appendix.

Edit Data

Updating existing data in a database is another critical database task. To change the contents of an existing record, navigate to the field you want to change and type the new information. You can delete unwanted data by clicking the field and using [Backspace] or [Delete] to delete text to the left or right of the insertion point. Other data entry keystrokes are summarized in **TABLE A-6**. **CASE** ▶ *Samantha Hooper asks you to correct two records in the Customers table.*

STEPS

1. **Double-click the name in the FirstName field of the second record, type Kelsey, press [Enter], type Barker, press [Enter], type 111-222-4444, press [Enter], type 2/15/84, then press [Enter]**

   You changed the name, telephone number, and birth date of the second customer. When you entered the last two digits of the year value, Access inserted the first two digits after you pressed [Enter]. You'll also change the third customer.

2. **Press [Enter] to move to the FirstName field of the third record, type Joshua, press [Enter], type Lang, press [Enter], type 222-333-4444, then press [Esc]**

   Pressing [Esc] once removes the current field's editing changes, so the Phone value changes back to the previous entry. Pressing [Esc] twice removes all changes to the current record. When you move to another record, Access saves your edits, so you can no longer use [Esc] to remove editing changes to the current record. You can, however, click the Undo button ↩ on the Quick Access toolbar to undo changes to a previous record.

3. **Retype 222-333-4444, press [Enter], type 12/1/50 in the Birthday field, press [Enter], click the 12/1/50 date you just entered, click the Calendar icon 🗓, then click April 14, 1951, as shown in FIGURE A-16**

   When you are working in the Birthday field, which has a Date/Time data type, you can enter a date from the keyboard or use the **Calendar Picker**, a pop-up calendar to find and select a date.

4. **Click the record selector for the last record (Oscar Lee), click the Delete button in the Records group on the HOME tab, then click Yes**

   A message warns that you cannot undo a record deletion. The Undo button is dimmed, indicating that you cannot use it. The Customers table now has five records, as shown in **FIGURE A-17**. Keep in mind that your CustID values might differ from those in the figure because they are controlled by Access.

5. **Click the FILE tab, click Print, then click Print Preview to review the printout of the Customers table before printing**

6. **Click the Close Print Preview button, click the Close button in the upper-right corner of the window to close the Quest.accdb database and Access 2013, then click Yes if prompted to save design changes to the Customers table**
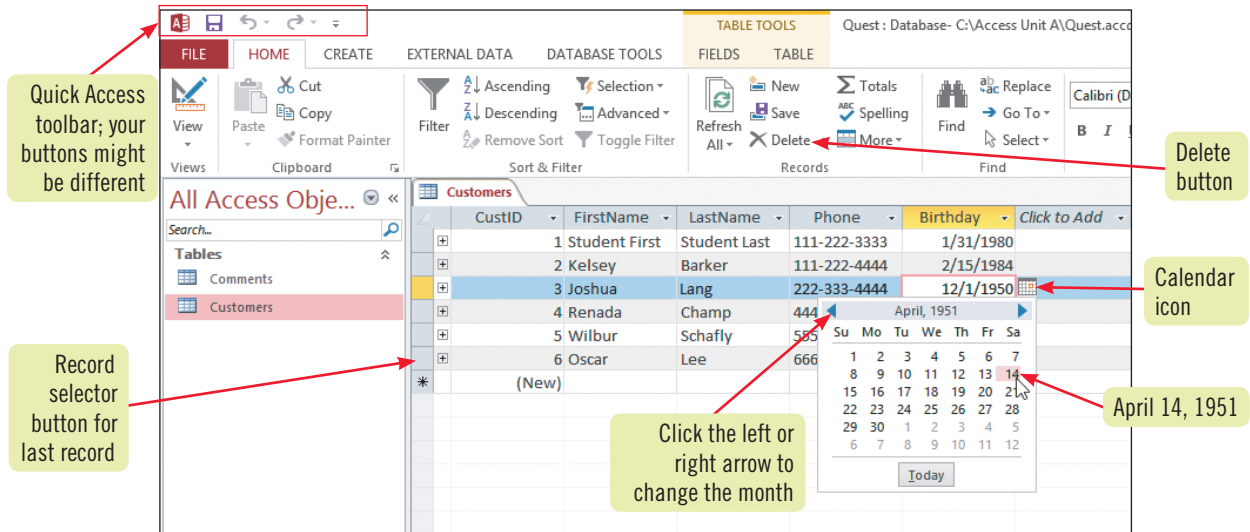
FIGURE A-16: Editing customer records

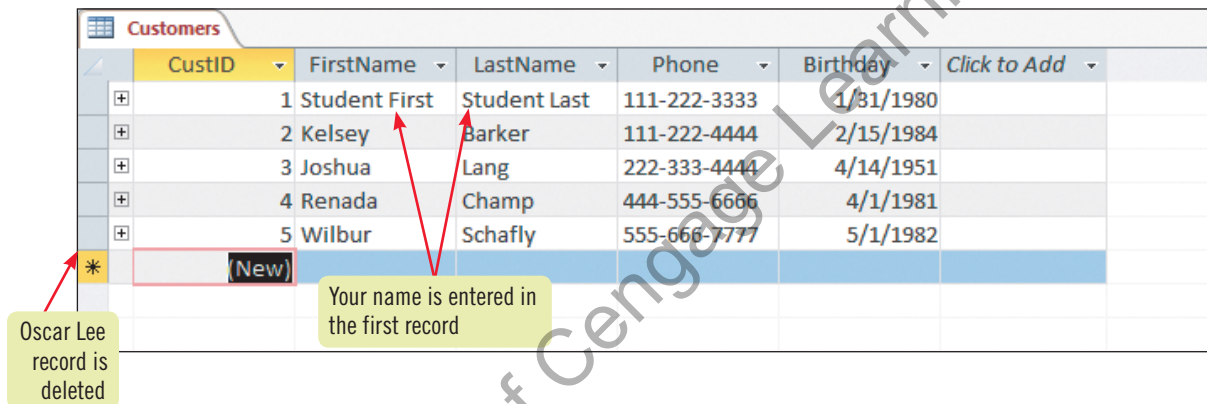**FIGURE A-17:** Final Customers datasheet

TABLE A-6: Edit mode keyboard shortcuts

editing keystroke	action
[Backspace]	Deletes one character to the left of the insertion point
[Delete]	Deletes one character to the right of the insertion point
[F2]	Switches between Edit and Navigation mode
[Esc]	Undoes the change to the current field
[Esc][Esc]	Undoes all changes to the current record
[F7]	Starts the spell-check feature
[Ctrl][']	Inserts the value from the same field in the previous record into the current field
[Ctrl][;]	Inserts the current date in a Date field

Resizing and moving datasheet columns

You can resize the width of a field in a datasheet by dragging the column separator, the thin line that separates the field names to the left or right. The pointer changes to ↔ as you make the field wider or narrower. Release the mouse button when you have resized the field. To adjust the column width to accommodate the widest entry in the field, double-click the column separator. To move a column, click the field name to select the entire column, then drag the field name left or right.

Access 2013