

ILLUSTRATED SERIES™

# Microsoft® Access 2013

Brief

Introductory

Complete

## FEATURES:

- Windows® 7 and Windows® 8 Compatible
- Unique 2-page layout
- Learn skills quickly and efficiently



Lisa Friedrichsen

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# New! Learning Outcomes

Every 2-page lesson in this book now contains a green **Learning Outcomes box** that states the learning goals for that lesson.

## Learning Outcomes

- Scroll the Start screen
- Display the Charms bar
- Switch between Start screen and desktop

- **What is a learning outcome?** A learning outcome states what a student is expected to know or be able to do after completing a lesson. Each learning outcome is skill-based or knowledge-based and is *measurable*. Learning outcomes map to learning activities and assessments.
- **How do students benefit from learning outcomes?** Learning outcomes tell students *exactly* what skills and knowledge they are *accountable* for learning in that lesson. This helps students study more efficiently and effectively and makes them more active learners.
- **How do instructors benefit from learning outcomes?** Learning outcomes provide clear, measurable, skills-based learning goals that map to various high-quality learning activities and assessments. A **Learning Outcomes Map**, available for each unit in this book, maps every learning outcome to the learning activities and assessments.

*See inside for more information!*



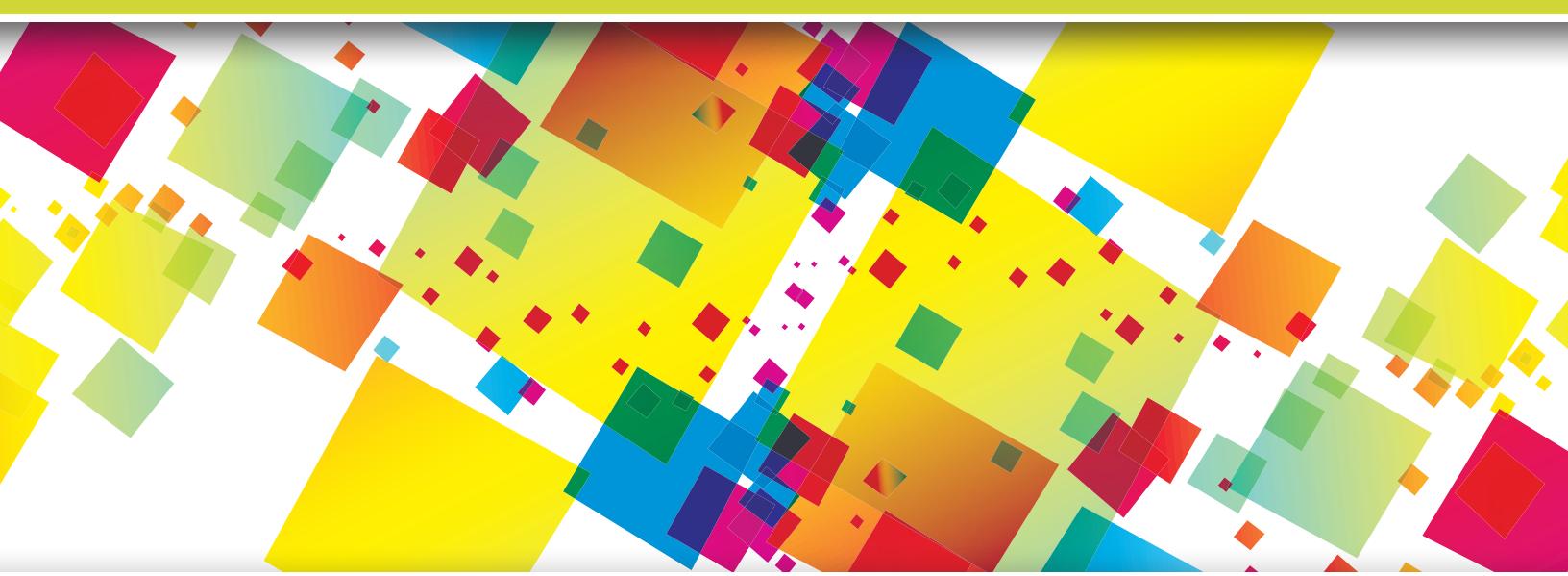
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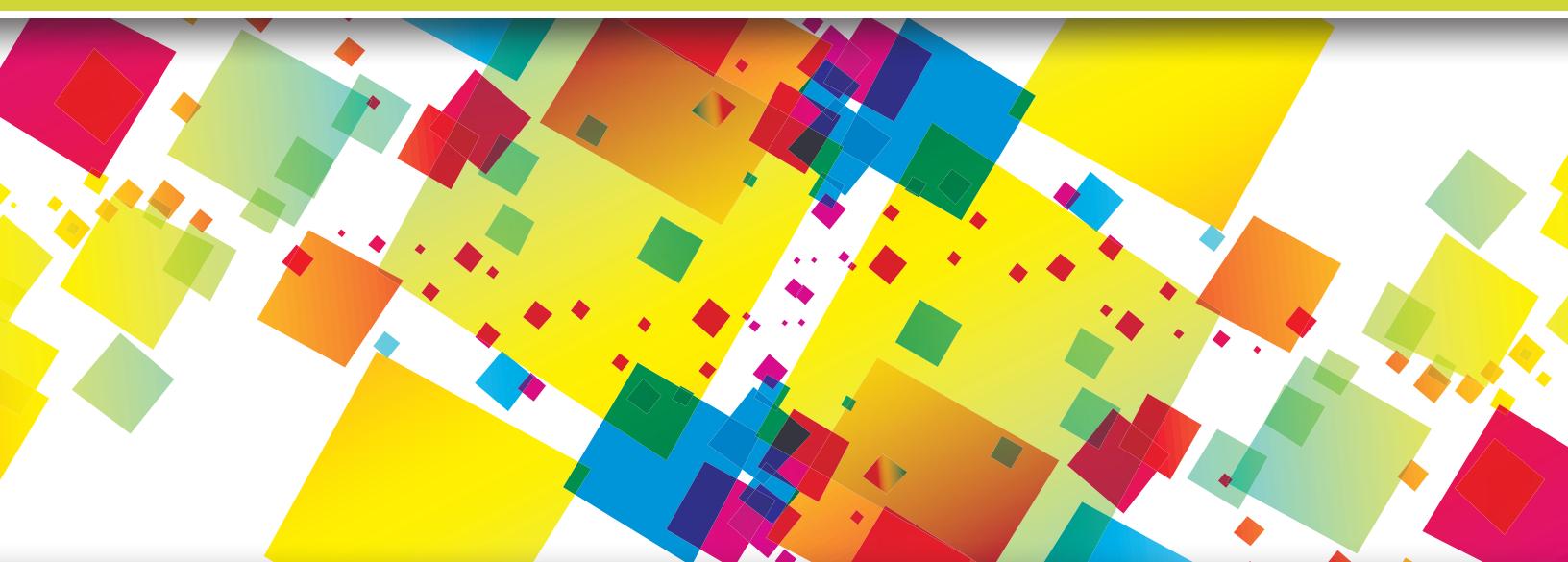
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**Microsoft® Access® 2013—Illustrated Brief**

Lisa Friedrichsen

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Brand Manager: Elinor Gregory

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QA Manuscript Reviewers: John Freitas, Susan Pedicini, Susan Whalen, Jeff Schwartz

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**Course Technology**

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Boston, MA 02210

USA

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# Preface

Welcome to Microsoft Access 2013—Illustrated Brief. This book has a unique design: each skill is presented on two facing pages, with steps on the left and screens on the right. The layout makes it easy to learn a skill without having to read a lot of text and flip pages to see an illustration.

**Access 2013 UNIT B**

## Filter Data

**Filtering** a table or query datasheet temporarily displays only those records that match given criteria. Recall that criteria are limiting conditions you set. For example, you might want to show only tours in the state of California, or only tours with a duration of 14 days. Although filters provide a quick and easy way to display a temporary subset of records in the current datasheet, they are not as powerful or flexible as queries. Most important, a query is a saved object within the database, whereas filters are temporary because Access removes them when you close the datasheet. TABLE B-2 compares filters and queries.

**CASE** Samantha asks you to find all Adventure tours offered in the month of July. You can filter the Tours table datasheet to provide this information.

**STEPS**

- Double-click the Tours table to open it, click any occurrence of **Adventure** in the Category field, click the Selection button in the Sort & Filter group on the HOME tab, then click Equals “Adventure”
- Click the Advanced button in the Sort & Filter group, then click Filter By Form
- Click the TourStartDate cell, then type **7/1/2014** as shown in FIGURE B-11
- Click the Toggle Filter button in the Sort & Filter group
- Close the Tours datasheet, then click Yes when prompted to save the changes

**QUICK TIP** You can also apply a sort or filter by clicking the Sort and Filter arrow next to any part of the field name and choosing the sort order or filter values you want.

**QUICK TIP** To clear previous criteria, click the Advanced button, then click Clear All Filters.

**QUICK TIP** Be sure to remove existing filters before applying a new filter, or the new filter will apply to the current subset of records instead of the entire datasheet.

**Using wildcard characters**

To search for a pattern, you can use a **wildcard** character to represent any character in the condition entry. Use a question mark (?) to search for any single character and an asterisk (\*) to search for any number of characters. Wildcard characters are often used with the **Like** operator. For example, the criterion Like “12/?” would find all dates in December of 2013, and the criterion Like “F\*” would find all entries that start with the letter F.

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**FIGURE B-10:** Filtering the Tours table

The screenshot shows the Microsoft Access ribbon with the Home tab selected. In the bottom pane, the Tours table is displayed with several rows of tour information. A green callout box labeled '8' points to the 'Filter icon' (a magnifying glass) in the 'Sort & Filter' group on the ribbon. Another green callout box labeled '7' points to the 'Toggle Filter button' (a square with a diagonal line) in the same group. A third green callout box labeled '6' points to the 'Category field' (the 'Category' column header). Labels with arrows explain the 'Selection button', 'Advanced button', and 'Sort and filter buttons'.

**FIGURE B-11: Filtering By Form criteria**

This screenshot shows the Tours table with a filter applied. The 'TourStartDate' column header has a dropdown arrow indicating a filter is applied. A green callout box labeled '5' points to the 'TourStartDate criterion'. Another green callout box labeled '4' points to the 'Category criterion' (the 'Category' column header).

**FIGURE B-12: Results of filtering by form**

This screenshot shows the filtered results of the tour data. Only one row is visible, representing a tour from Breeze Bay Shelling on 07/06/2014. A green callout box labeled '3' points to the 'TourStartDate values are in July 2014'. Another green callout box labeled '2' points to the 'Category is equal to Adventure' criterion.

**TABLE B-2: Filters vs. queries**

characteristics	filters	queries
Are saved as an object in the database	•	
Can be used to select a subset of records in a datasheet	•	•
Can be used to select a subset of fields in a datasheet	•	
Resulting datasheet used to enter and edit data	•	
Resulting datasheet used to sort, filter, and find records	•	•
Commonly used as the source of data for a form or report	•	
Can calculate sums, averages, counts, and other types of summary statistics across records	•	
Can be used to create calculated fields	•	

**TABLE B-3: Filter buttons**

name	button	purpose
Filter		Provides a list of values in the selected field that can be used to customize a filter
Selection		Filters records that equal, do not equal, or are otherwise compared with the current value
Advanced		Provides advanced filter features such as Filter By Form, Save As Query, and Clear All Filters
Toggle Filter		Applies or removes the current filter

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- 1 **New!** Learning Outcomes box lists measurable learning goals for which a student is accountable in that lesson.
- 2 Each two-page lesson focuses on a single skill.
- 3 Introduction briefly explains why the lesson skill is important.
- 4 A case scenario motivates the steps and puts learning in context.
- 5 Step-by-step instructions and brief explanations guide students through each hands-on lesson activity.
- 6 **New!** Figure references are now in red bold to help students refer back and forth between the steps and screenshots.
- 7 Tips and troubleshooting advice, right where you need it—next to the step itself.
- 8 **New!** Larger screenshots with green callouts now placed on top keep students on track as they complete steps.
- 9 Tables provide summaries of helpful information such as button references or keyboard shortcuts.
- 10 Clues to Use yellow boxes provide useful information related to the lesson skill.

This book is an ideal learning tool for a wide range of learners—the “rookies” will find the clean design easy to follow and focused with only essential information presented, and the “hotshots” will appreciate being able to move quickly through the lessons to find the information they need without reading a lot of text. The design also makes this a great reference after the course is over! See the illustration on the left to learn more about the pedagogical and design elements of a typical lesson.

## What's New in this Edition

- **Coverage** — This book helps students learn to use Microsoft Access 2013, including step-by-step instructions on creating tables, queries, forms, and reports. Working in the Cloud appendix helps students learn to use SkyDrive to save, share, and manage files in the cloud and to use Office Web Apps.
  - **New! Learning Outcomes** — Each lesson displays a green Learning Outcomes box that lists skills-based or knowledge-based learning goals for which students are accountable. Each Learning Outcome maps to a variety of learning activities and assessments. (See the *New! Learning Outcomes* section on page xii for more information.)
  - **New! Updated Design** — This edition features many new design improvements to engage students — including larger lesson screenshots with green callouts placed on top, and a refreshed Unit Opener page.
  - **New! Independent Challenge 4: Explore** — This new case-based assessment activity allows students to explore new skills and use creativity to solve a problem or create a project.

## Assignments

This book includes a wide variety of high quality assignments you can use for practice and assessment. Assignments include:

- **Concepts Review** — Multiple choice, matching, and screen identification questions.
  - **Skills Review** — Step-by-step, hands-on review of every skill covered in the unit.
  - **Independent Challenges 1-3** — Case projects requiring critical thinking and application of the unit skills. The Independent Challenges increase in difficulty. The first one in each unit provides the most hand-holding; the subsequent ones provide less guidance and require more critical thinking and independent problem solving.
  - **Independent Challenge 4: Explore** — Case projects that let students explore new skills that are related to the core skills covered in the unit and are often more open ended, allowing students to use creativity to complete the assignment.
  - **Visual Workshop** — Critical thinking exercises that require students to create a project by looking at a completed solution; they must apply the skills they've learned in the unit and use critical thinking skills to create the project from scratch.

## Visual Workshop

Using the skills you've learned in this unit, open a sample document (the date and time will differ). Note the position of the Recycle Bin, the Support window, and the presence of the Charms bar. Open Word pointing, clicking, and dragging to make your screen look like **FIGURE A-28**, saving changes to the document, then shut down Windows.

**FIGURE A-28**

**Independent Challenge 2**

You are the new manager for Katharine Anne's Designs, a hi-tech business. The company maintains four delivery vans that are fuel efficient. The Windows 8 Calculator accessory can help you calculate fuel economy.

- Start your computer and sign in to Windows 8 if necessary.
- Click to enter the number 67 on the calculator.
- Click the division sign (/) button.
- Click the number 3.
- Click the equals sign button (=), and write down the result of the calculation. (Hint: The result should be 41.5.)
- Click the Help menu in the Calculator window, then click the Frequently Asked Questions topic, and scroll down to how to calculate fuel economy. The information is located under the heading of fuel economy.
- Save WordPad, enter the memo about how Calcul fuel consumption, print the document using the Print then exit WordPad without saving.
- Close the Help window.
- Close the calculator, then exit Windows.

**Independent Challenge 3**

You are the office manager for Irina Pet Shipping, a service by cats and dogs across the United States and Canada. It's important that pets won't be in danger from extreme temperatures when the way to early monitor temperatures in destination cities. You type in Celsius on your desktop. (Note: To complete the steps in Celsius on your desktop, type  $5/9 \times (F - 32)$ .)

- Start your computer and sign in to Windows 8 if necessary.
- If multiple locations appear, click one of your choice.
- Right-click the sky area above the weather information.

## Independent Challenge 2

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## Independent Challenge 3

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- Start your computer and sign in to Windows 8 if necessary.
- If multiple locations appear, click one of your choice.
- Right-click the sky area above the weather information.

## Skills Review (continued)

- Make the WordPad window the active window.
- Make the Paint window the active window.
- Minimize the WordPad window.
- Drag the WordPad window so it's in the middle of the screen.
- Redisplay the Paint window.
- Drag the Print window so it automatically fills the right side of the screen.
- Close the WordPad window, maximize the Paint window.

**FIGURE A-29**

## Practice

### Concepts Review

Label the elements of the Windows 8 window shown in **FIGURE A-29**.

**FIGURE A-29**

# New! Learning Outcomes

Every 2-page lesson in this book now contains a green **Learning Outcomes** box that states the learning goals for that lesson.

## Learning Outcomes

- Scroll the Start screen
- Display the Charms bar
- Switch between Start screen and desktop

- **What is a learning outcome?** A learning outcome states what a student is expected to know or be able to do after completing a lesson. Each learning outcome is skills-based or knowledge-based and is *measurable*. Learning outcomes map to learning activities and assessments.
- **How do students benefit from learning outcomes?** Learning outcomes tell students exactly what skills and knowledge they are *accountable* for learning in that lesson. This helps students study more efficiently and effectively and makes them more active learners.
- **How do instructors benefit from learning outcomes?** Learning outcomes provide clear, measurable, skills-based learning goals that map to various high-quality learning activities and assessments. A **Learning Outcomes Map**, available for each unit in this book, maps every learning outcome to the learning activities and assessments shown below.

## Learning Outcomes Map to These Learning Activities:

1. **Book lessons:** Step-by-step tutorial on one skill presented in a two-page learning format
2. **Illustrated Videos:** Videos based on lessons in this book (sold separately on DVD, or in SAM)
3. **SAM Training:** Short animations and hands-on practice activities in simulated environment

## Learning Outcomes Map to These Assessments:

1. **End-of-Unit Exercises:** Concepts Review (screen identification, matching, multiple choice); Skills Review (hands-on review of each lesson); Independent Challenges (hands-on, case-based review of specific skills); Visual Workshop (activity that requires student to build a project by looking at a picture of the final solution).
2. **Exam View Test Banks:** Objective-based questions you can use for online or paper testing.
3. **SAM Assessment:** Performance-based assessment in a simulated environment.
4. **SAM Projects:** Auto-graded projects for Word, Excel, Access, and PowerPoint that students create live in the application.
5. **Extra Independent Challenges:** Extra case-based exercises available in the Instructor Resources that cover various skills.

## Learning Outcomes Map

A **Learning Outcomes Map**, contained in the Instructor Resources, provides a listing of learning activities and assessments for each learning outcome in the book.

### Learning Outcomes Map

Microsoft Access 2013 Illustrated

Unit A--Getting Started with Microsoft Office 2013

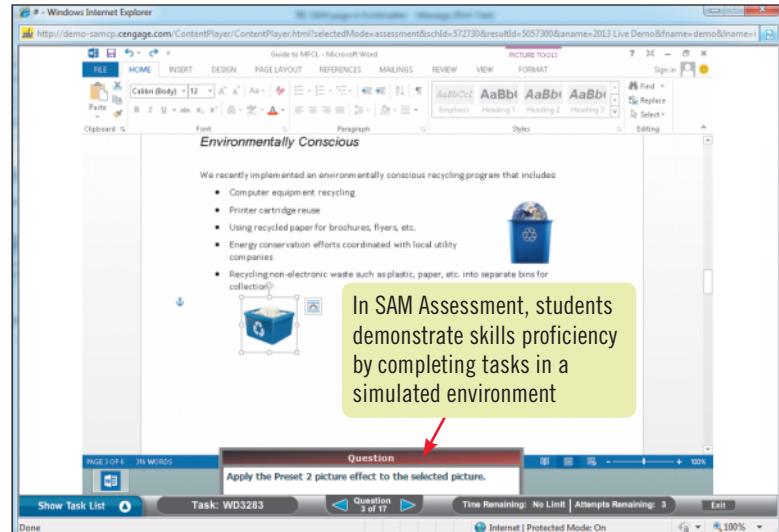
KEY:  
IC=Independent Challenge      EIC=Extra Independent Challenge  
VW=Visual Workshop

	Concepts Review	Skills Review	IC1	IC2	IC3	IC4	VW	EIC 1	EIC 2	Test Bank	SAM Assessment	SAM Projects	SAM Training	Illustrated Video
<b>Understand the Office 2013 Suite</b>														
Identify Office suite components	✓		✓							✓				✓
Describe the features of each program			✓							✓				✓
<b>Start an Office App</b>														
Start an Office App			✓							✓	✓	✓	✓	✓
Explain the purpose of a template										✓				✓
Start a new blank document			✓							✓				✓
<b>Identify Office 2013 Screen Elements</b>														
Identify basic components of the user interface	✓									✓				✓
Display and use Backstage view			✓							✓				✓
Adjust the Zoom level	✓		✓							✓	✓	✓	✓	✓
<b>Create and Save a File</b>														
Create a file			✓							✓	✓	✓	✓	✓
Save a file	✓		✓							✓	✓	✓	✓	✓
Explain SkyDrive			✓							✓	✓	✓	✓	✓
<b>Open a File and Save It with a New Name</b>														
Open an existing file				✓						✓				
Save a file with a new name					✓					✓				

# Online Learning and Assessment Tools

## SAM

Get your students workplace-ready with SAM, the market-leading proficiency-based assessment and training solution for Microsoft Office! SAM's active, hands-on environment helps students master Microsoft Office skills and computer concepts that are essential to academic and career success, delivering the most comprehensive online learning solution for your course! Through skill-based assessments, interactive trainings, business-centric projects, and comprehensive remediation, SAM engages students in mastering the latest Microsoft Office programs on their own, giving instructors more time to focus on teaching. Computer concepts labs supplement instruction of important technology-related topics and issues through engaging simulations and interactive, auto-graded assessments. With enhancements including streamlined course setup, more robust grading and reporting features, and the integration of fully interactive MindTap Readers containing Cengage Learning's premier textbook and video content, SAM provides the best teaching and learning solution for your course. (SAM sold separately.)



## Video Companion

Engage your students with videos! The *Video Companion for Microsoft Office 2013 Illustrated First Course* contains more than 150 videos based on the step-by-step lessons in our book *Microsoft Office 2013 Illustrated Introductory First Course*. Each video provides a multimedia version of a single two-page lesson in this text and includes a lesson overview along with a demonstration of the steps. Nearly 12 hours of videos provide instructional support. The Video Companion is a great learning tool for all students, and especially distance learning students or students who need help or reinforcement outside of the classroom. (Sold separately on DVD or in SAM MindTap Reader.)



## MindTap

MindTap is a fully online, highly personalized learning experience built upon Cengage Learning content. MindTap combines student learning tools — readings, multimedia, activities and assessments — into a singular Learning Path that guides students through their course. Instructors personalize the experience by customizing authoritative Cengage Learning content and learning tools, including the ability to add SAM trainings, assessments, and projects into the Learning Path via a SAM app that integrates into the MindTap framework seamlessly with Learning Management Systems. Available in 2014.

# Instructor Resources

This book comes with a wide array of high-quality technology-based teaching tools to help you teach and to help students learn. The following teaching tools are available for download at our Instructor Companion Site. Simply search for this text at [login.cengage.com](http://login.cengage.com). An instructor login is required.

- **New! Learning Outcomes Map** — A detailed grid for each unit (in Excel format) shows the learning activities and assessments that map to each learning outcome in that unit.
- **Instructor's Manual** — Available as an electronic file, the Instructor's Manual includes lecture notes with teaching tips for each unit.
- **Sample Syllabus** — Prepare and customize your course easily using this sample course outline.
- **PowerPoint Presentations** — Each unit has a corresponding PowerPoint presentation covering the skills and topics in that unit that you can use in lectures, distribute to your students, or customize to suit your course.
- **Figure Files** — The figures in the text are provided on the Instructor Resources site to help you illustrate key topics or concepts. You can use these to create your own slide shows or learning tools.
- **Solution Files** — Solution Files are files that contain the finished project that students create or modify in the lessons or end-of-unit material.
- **Solutions Document** — This document outlines the solutions for the end-of-unit Concepts Review, Skills Review, Independent Challenges and Visual Workshops. An Annotated Solution File and Grading Rubric accompany each file and can be used together for efficient grading.
- **ExamView Test Banks** — ExamView is a powerful testing software package that allows you to create and administer printed, computer (LAN-based), and Internet exams. Our ExamView test banks include questions that correspond to the skills and concepts covered in this text, enabling students to generate detailed study guides that include page references for further review. The computer-based and Internet testing components allow students to take exams at their computers, and also save you time by grading each exam automatically.

## Key Facts About Using This Book

**Data Files are needed:** To complete many of the lessons and end-of-unit assignments, students need to start from partially completed Data Files, which help students learn more efficiently. By starting out with a Data File, students can focus on performing specific tasks without having to create a file from scratch. All Data Files are available as part of the Instructor Resources. Students can also download Data Files themselves for free at [cengagebrain.com](http://cengagebrain.com). (For detailed instructions, go to [www.cengage.com/ct/studentdownload](http://www.cengage.com/ct/studentdownload).)

**System requirements:** This book was developed using Microsoft Office 2013 Professional running on Windows 8. Note that Windows 8 is not a requirement for the units on Microsoft Office; Office 2013 runs virtually the same on Windows 7 and Windows 8. Please see Important Notes for Windows 7 Users on the next page for more information.

**Screen resolution:** This book was written and tested on computers with monitors set at a resolution of 1366 x 768. If your screen shows more or less information than the figures in this book, your monitor is probably set at a higher or lower resolution. If you don't see something on your screen, you might have to scroll down or up to see the object identified in the figure.

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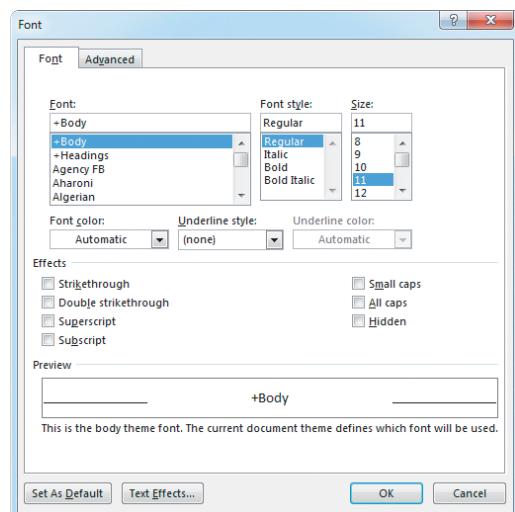
# Important Notes for Windows 7 Users

The screenshots in this book show Microsoft Office 2013 running on Windows 8. However, if you are using Microsoft Windows 7, you can still use this book because Office 2013 runs virtually the same on both platforms. There are only two differences that you will encounter if you are using Windows 7. Read this section to understand the differences.

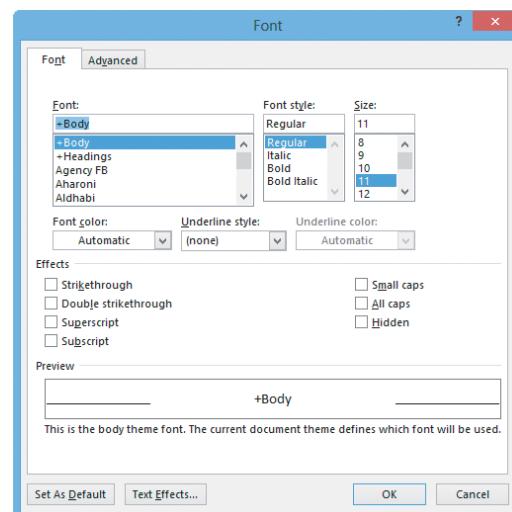
## Dialog boxes

If you are a Windows 7 user, dialog boxes shown in this book will look slightly different than what you see on your screen. Dialog boxes for Windows 7 have a light blue title bar, instead of a medium blue title bar. However, beyond this superficial difference in appearance, the options in the dialog boxes across platforms are the same. For instance, the screenshots below show the Font dialog box running on Windows 7 and the Font dialog box running on Windows 8.

**FIGURE 1:** Font dialog box in Windows 7



**FIGURE 2:** Font dialog box in Windows 8



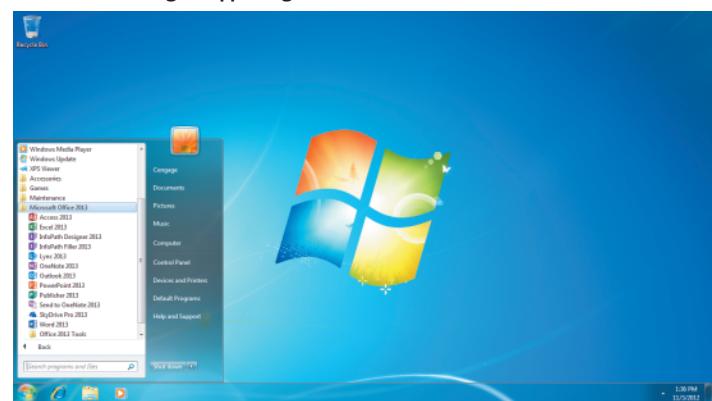
## Alternate Steps for Starting an App in Windows 7

Nearly all of the steps in this book work exactly the same for Windows 7 users. However, starting an app (or program/application) requires different steps for Windows 7. The steps below show the Windows 7 steps for starting an app. (Note: Windows 7 alternate steps also appear in red Troubleshoot boxes next to any step in the book that requires starting an app.)

### Starting an app (or program/application) using Windows 7

1. Click the **Start button** on the taskbar to open the Start menu.
2. Click **All Programs**, then click the **Microsoft Office 2013 folder**. See Figure 3.
3. Click the app you want to use (such as **Access 2013**).

**FIGURE 3:** Starting an app using Windows 7



# Acknowledgements

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## Author Acknowledgements

The Access portion is dedicated to my students, and all who are using this book to teach and learn about Access. Thank you. Also, thank you to all of the professionals who helped me create this book.

-Lisa Friedrichsen

## Advisory Board Acknowledgements

We thank our Illustrated Advisory Board who gave us their opinions and guided our decisions as we developed this edition. They are as follows:

**Merlin Amirtharaj**, Stanly Community College

**Londo Andrews**, J. Sargeant Reynolds Community College

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**Sheryl Lenhart**, Terra Community College

**Dr. Jose Nieves**, Lord Fairfax Community College

# Getting Started with Microsoft Office 2013

**CASE**

This unit introduces you to the most frequently used programs in Office, as well as common features they all share.

## Unit Objectives

After completing this unit, you will be able to:

- Understand the Office 2013 suite
- Start an Office app
- Identify Office 2013 screen elements
- Create and save a file
- Open a file and save it with a new name
- View and print your work
- Get Help, close a file, and exit an app

## File You Will Need

OFFICE A-1.xlsx

Microsoft® product screenshots used with permission from Microsoft® Corporation.

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**Learning Outcomes**

- Identify Office suite components
- Describe the features of each program

**DETAILS**

# Understand the Office 2013 Suite

Microsoft Office 2013 is a group of programs—which are also called applications or apps—designed to help you create documents, collaborate with coworkers, and track and analyze information. You use different Office programs to accomplish specific tasks, such as writing a letter or producing a presentation, yet all the programs have a similar look and feel. Microsoft Office 2013 apps feature a common, context-sensitive user interface, so you can get up to speed faster and use advanced features with greater ease. The Office apps are bundled together in a group called a **suite**. The Office suite is available in several configurations, but all include Word, Excel, and PowerPoint. Other configurations include Access, Outlook, Publisher, and other programs.



*As part of your job, you need to understand how each Office app is best used to complete specific tasks.*

## The Office apps covered in this book include:

**QUICK TIP**

The terms "program" and "app" are used interchangeably.

- **Microsoft Word 2013**

When you need to create any kind of text-based document, such as a memo, newsletter, or multipage report, Word is the program to use. You can easily make your documents look great by inserting eye-catching graphics and using formatting tools such as themes, which are available in most Office programs. **Themes** are predesigned combinations of color and formatting attributes you can apply to a document. The Word document shown in **FIGURE A-1** was formatted with the Organic theme.

- **Microsoft Excel 2013**

Excel is the perfect solution when you need to work with numeric values and make calculations. It puts the power of formulas, functions, charts, and other analytical tools into the hands of every user, so you can analyze sales projections, calculate loan payments, and present your findings in a professional manner. The Excel worksheet shown in **FIGURE A-1** tracks personal expenses. Because Excel automatically recalculates results whenever a value changes, the information is always up to date. A chart illustrates how the monthly expenses are broken down.

- **Microsoft PowerPoint 2013**

Using PowerPoint, it's easy to create powerful presentations complete with graphics, transitions, and even a soundtrack. Using professionally designed themes and clip art, you can quickly and easily create dynamic slide shows such as the one shown in **FIGURE A-1**.

- **Microsoft Access 2013**

Access is a relational database program that helps you keep track of large amounts of quantitative data, such as product inventories or employee records. The form shown in **FIGURE A-1** was created for a grocery store inventory database. Employees use the form to enter data about each item. Using Access enables employees to quickly find specific information such as price and quantity.

**QUICK TIP**

In Word, Excel, and PowerPoint, the interface can be modified to automatically open a blank document, workbook, or presentation. To do this, click the FILE tab, click Options, click Show the Start screen when this application starts (to deselect it), then click OK. The next time the program opens, it will open a blank document.

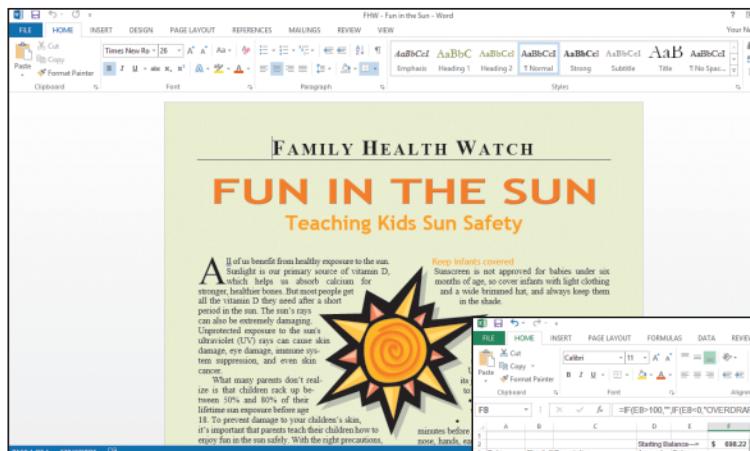
## Microsoft Office has benefits beyond the power of each program, including:

- **Common user interface: Improving business processes**

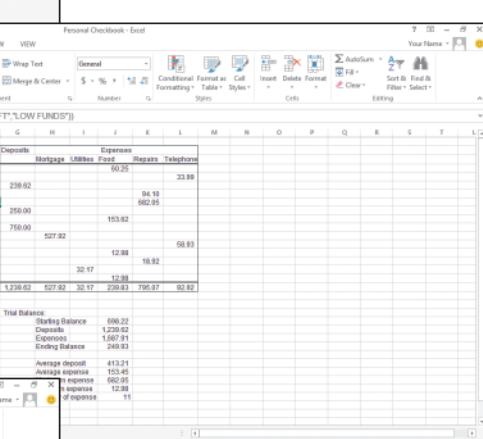
Because the Office suite programs have a similar **interface**, or look and feel, your experience using one program's tools makes it easy to learn those in the other programs. In addition, Office documents are **compatible** with one another, meaning that you can easily incorporate, or **integrate**, an Excel chart into a PowerPoint slide, or an Access table into a Word document.

- **Collaboration: Simplifying how people work together**

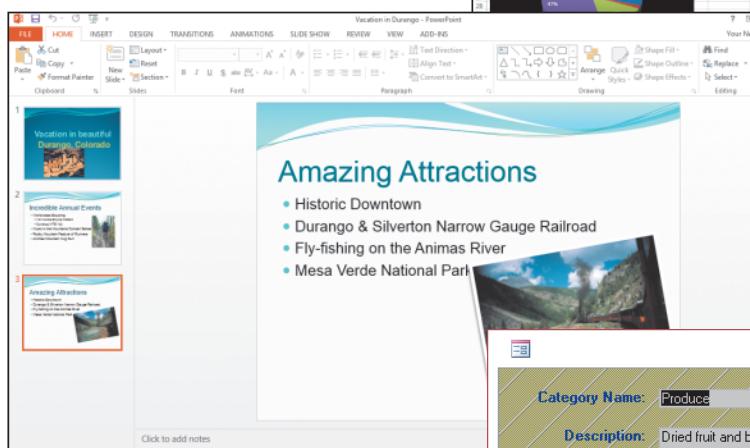
Office recognizes the way people do business today, and supports the emphasis on communication and knowledge sharing within companies and across the globe. All Office programs include the capability to incorporate feedback—called **online collaboration**—across the Internet or a company network.

**FIGURE A-1:** Microsoft Office 2013 documents


**Newsletter created in Word**



**Checkbook register created in Excel**



**Tourism presentation created in PowerPoint**



**Store inventory form created in Access**

Original photo courtesy of Ethan Estes/BigStockPhoto.com

## What is Office 365?

Until the release of Microsoft Office 2013, most consumers purchased Microsoft Office in a traditional way: by buying a retail package from a store or downloading it from Microsoft.com. You can still purchase Microsoft Office 2013 in this traditional way--but you can also now purchase it as a subscription service called Microsoft Office 365 (for businesses) and

Microsoft Office 365 Home Premium (for consumers). Office 365 requires businesses to pay a subscription fee for each user. Office 365 Home Premium Edition allows households to install Office on up to 5 devices. These subscription versions of Office provide extra services and are optimized for working in the cloud.

**Learning Outcomes**

- Start an Office app
- Explain the purpose of a template
- Start a new blank document

# Start an Office App

To get started using Microsoft Office, you need to start, or **launch**, the Office app you want to use. If you are running Microsoft Office on Windows 8, an easy way to start the app you want is to go to the Start screen, type the app name you want to search for, then click the app name in the Results list. If you are running Windows 7, you start an app using the Start menu. (If you are running Windows 7, follow the Windows 7 steps at the bottom of this page.) **CASE** → You decide to familiarize yourself with Office by starting Microsoft Word.

## STEPS

**TROUBLE**

If you are running Windows 7, follow the steps in the yellow box below.

**1. Go to the Windows 8 Start screen**

Your screen displays a variety of colorful tiles for all the apps on your computer. You could locate the app you want to open by scrolling to the right until you see it, or you can type the app name to search for it.

**2. Type word**

Your screen now displays “Word 2013” under “Results for ‘word’”, along with any other app that has “word” as part of its name (such as WordPad). See **FIGURE A-2**.

**3. Click Word 2013**

Word 2013 launches, and the Word **start screen** appears, as shown in **FIGURE A-3**. The start screen is a landing page that appears when you first start an Office app. The left side of this screen displays recent files you have opened. (If you have never opened any files, then there will be no files listed under Recent.) The right side displays images depicting different templates you can use to create different types of documents. A **template** is a file containing professionally designed content that you can easily replace with your own. You can also start from scratch using the Blank Document option.

### Starting an app using Windows 7

1. Click the **Start button**  on the taskbar
2. Click **All Programs** on the Start menu, click the **Microsoft Office 2013 folder** as shown in **FIGURE A-4**, then click **Word 2013**

Word 2013 launches, and the Word start screen appears, as shown previously in **FIGURE A-3**. The start screen is a landing page that appears when you first start an Office app. The left side of this

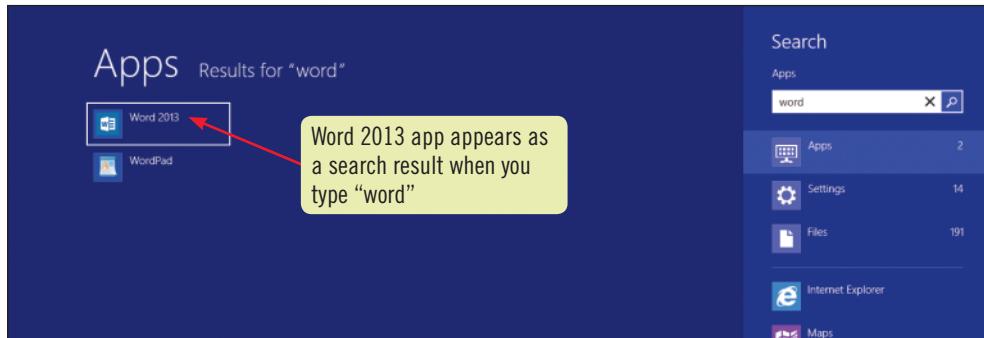
screen displays recent files you have opened. (If you have never opened any files, then there will be no files listed under Recent.) The right side displays images depicting different templates you can use to create different types of documents. A **template** is a file containing professionally designed content that you can easily replace with your own. Using a template to create a document can save time and ensure that your document looks great. You can also start from scratch using the Blank Document option.

### Using shortcut keys to move between Office programs

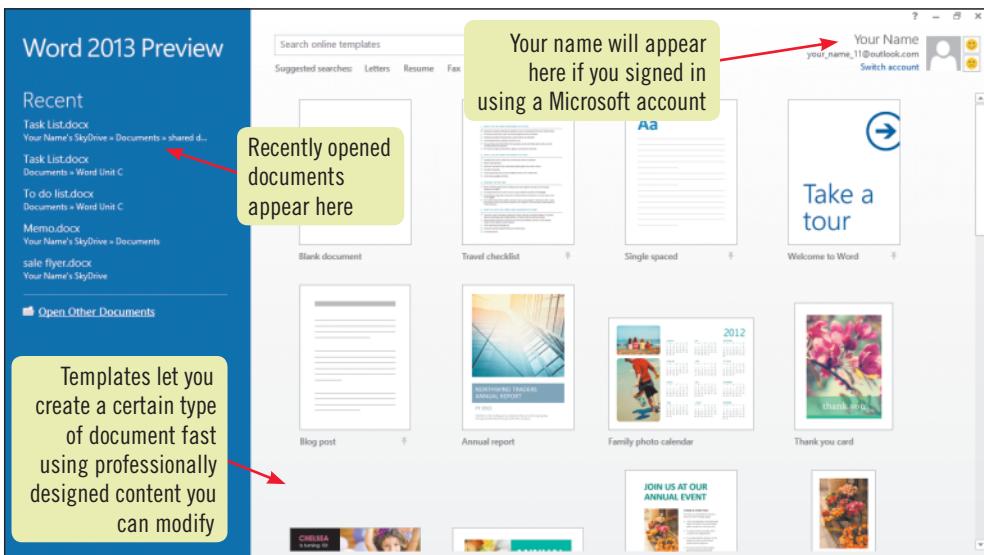
You can switch between open apps using a keyboard shortcut. The [Alt][Tab] keyboard combination lets you either switch quickly to the next open program or file or choose one from a gallery. To switch immediately to the next open program or file, press [Alt][Tab]. To choose from all open programs and files, press and hold [Alt], then press and release [Tab] without releasing

[Alt]. A gallery opens on screen, displaying the filename and a thumbnail image of each open program and file, as well as of the desktop. Each time you press [Tab] while holding [Alt], the selection cycles to the next open file or location. Release [Alt] when the program, file, or location you want to activate is selected.

**FIGURE A-2: Searching for Word app from the Start screen in Windows 8**

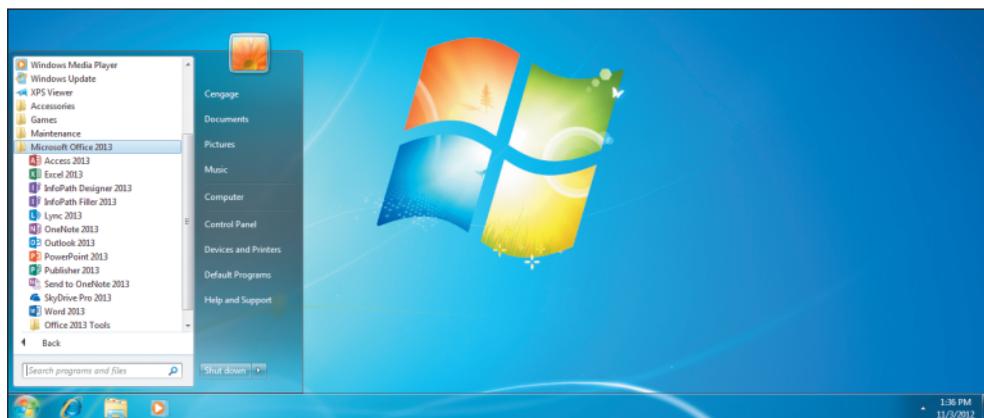


**FIGURE A-3: Word start screen**



Office 2013

**FIGURE A-4: Starting an app using Windows 7**



## Using the Office Clipboard

You can use the Office Clipboard to cut and copy items from one Office program and paste them into others. The Office Clipboard can store a maximum of 24 items. To access it, open the Office Clipboard task pane by clicking the dialog box launcher in the Clipboard group on the HOME tab. Each time you copy a selection, it is saved in the Office Clipboard. Each entry in the

Office Clipboard includes an icon that tells you the program it was created in. To paste an entry, click in the document where you want it to appear, then click the item in the Office Clipboard. To delete an item from the Office Clipboard, right-click the item, then click Delete.

**Learning Outcomes**

- Identify basic components of the user interface
- Display and use Backstage view
- Adjust the Zoom level

**STEPS****TROUBLE**

If you are running Windows 7, click the Start button on the taskbar, type **power**, then click PowerPoint 2013.

**QUICK TIP**

The Ribbon in every Office program includes tabs specific to the program, but all Office programs include a FILE tab and HOME tab on the left end of the Ribbon. Just above the FILE tab is the **Quick Access toolbar**, which also includes buttons for common Office commands.

**TROUBLE**

If you accidentally click a theme, click the Undo button on the Quick Access toolbar.

**QUICK TIP**

You can also use the Zoom button in the Zoom group on the VIEW tab to enlarge or reduce a document's appearance.

# Identify Office 2013 Screen Elements

One of the benefits of using Office is that the programs have much in common, making them easy to learn and making it simple to move from one to another. Individual Office programs have always shared many features, but the innovations in the Office 2013 user interface mean even greater similarity among them all. That means you can also use your knowledge of one program to get up to speed in another. A **user interface** is a collective term for all the ways you interact with a software program. The user interface in Office 2013 provides intuitive ways to choose commands, work with files, and navigate in the program window. **CASE** Familiarize yourself with some of the common interface elements in Office by examining the PowerPoint program window.

## 1. Go to the Windows 8 Start screen, type **pow**, click **PowerPoint 2013**, then click **Blank Presentation**

PowerPoint becomes the active program displaying a blank slide. Refer to **FIGURE A-5** to identify common elements of the Office user interface. The **document window** occupies most of the screen. At the top of every Office program window is a **title bar** that displays the document name and program name. Below the title bar is the **Ribbon**, which displays commands you're likely to need for the current task. Commands are organized onto **tabs**. The tab names appear at the top of the Ribbon, and the active tab appears in front.

## 2. Click the **FILE** tab

The FILE tab opens, displaying **Backstage view**. It is called Backstage view because the commands available here are for working with the files "behind the scenes." The navigation bar on the left side of Backstage view contains commands to perform actions common to most Office programs.

## 3. Click the **Back** button to close Backstage view and return to the document window, then click the **DESIGN** tab on the Ribbon

To display a different tab, click its name. Each tab contains related commands arranged into **groups** to make features easy to find. On the DESIGN tab, the Themes group displays available design themes in a **gallery**, or visual collection of choices you can browse. Many groups contain a **dialog box launcher**, which you can click to open a dialog box or pane from which to choose related commands.

## 4. Move the mouse pointer over the **Ion** theme in the Themes group as shown in **FIGURE A-6**, but do not click the mouse button

The Ion theme is temporarily applied to the slide in the document window. However, because you did not click the theme, you did not permanently change the slide. With the **Live Preview** feature, you can point to a choice, see the results, then decide if you want to make the change. Live Preview is available throughout Office.

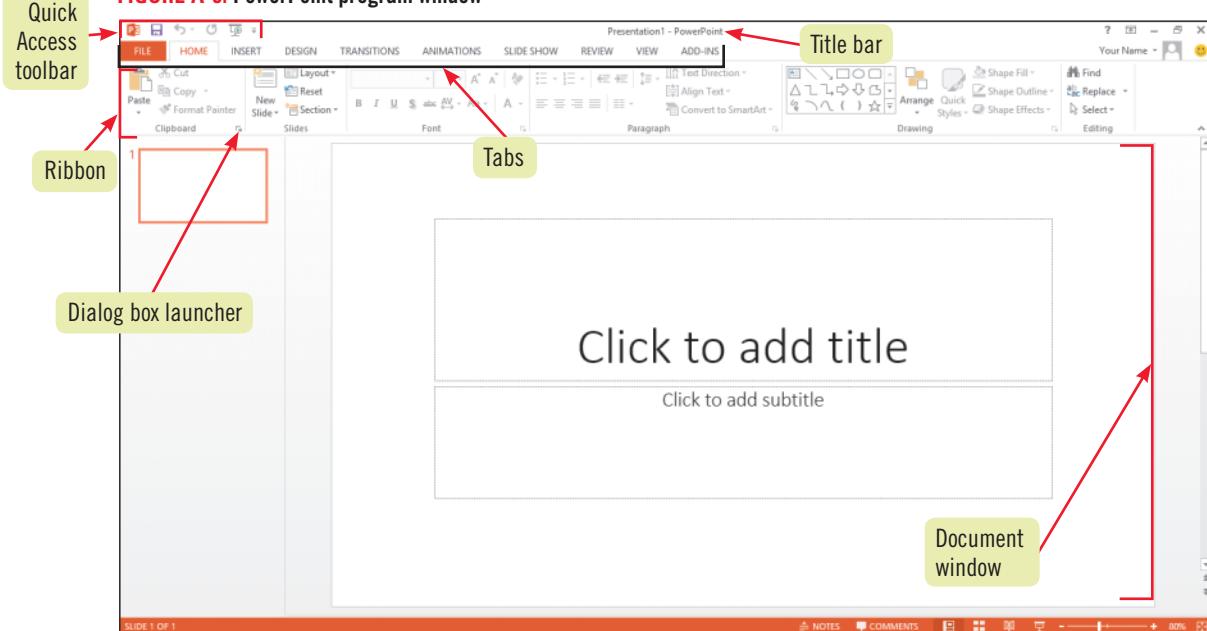
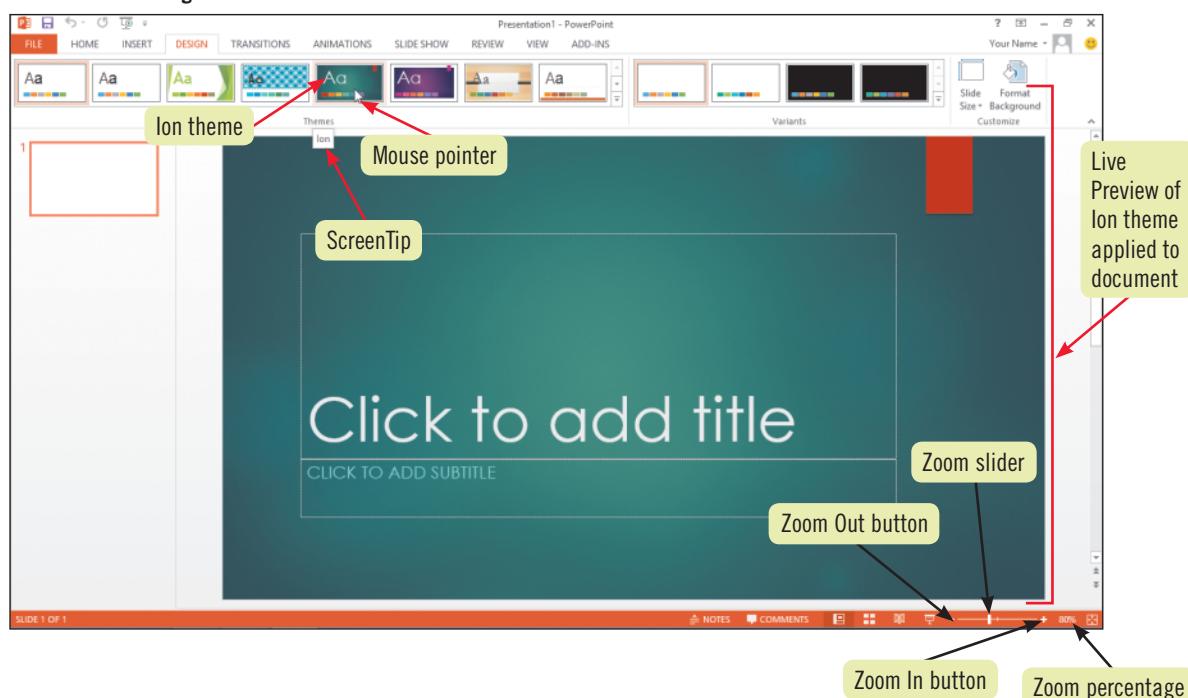
## 5. Move away from the Ribbon and towards the slide

If you had clicked the Ion theme, it would be applied to this slide. Instead, the slide remains unchanged.

## 6. Point to the **Zoom slider** on the status bar, then drag to the right until the **Zoom level** reads **166%**

The slide display is enlarged. Zoom tools are located on the status bar. You can drag the slider or click the Zoom In or Zoom Out buttons to zoom in or out on an area of interest. **Zooming in** (a higher percentage), makes a document appear bigger on screen but less of it fits on the screen at once; **zooming out** (a lower percentage) lets you see more of the document at a reduced size.

## 7. Click the **Zoom Out** button on the status bar to the left of the Zoom slider until the **Zoom level** reads **120%**

**FIGURE A-5:** PowerPoint program window**FIGURE A-6:** Viewing a theme with Live Preview

## Using Backstage view

**Backstage view** in each Microsoft Office program offers “one stop shopping” for many commonly performed tasks, such as opening and saving a file, printing and previewing a document, defining document properties, sharing information, and exiting a program. Backstage view opens when you click the FILE tab in

any Office program, and while features such as the Ribbon, Mini toolbar, and Live Preview all help you work *in* your documents, the FILE tab and Backstage view help you work *with* your documents. You can return to your active document by pressing the Back button.

**Learning Outcomes**

- Create a file
- Save a file
- Explain SkyDrive

**STEPS**

When working in an Office program, one of the first things you need to do is to create and save a file. A **file** is a stored collection of data. Saving a file enables you to work on a project now, then put it away and work on it again later. In some Office programs, including Word, Excel, and PowerPoint, you can open a new file when you start the program, then all you have to do is enter some data and save it. In Access, you must create a file before you enter any data. You should give your files meaningful names and save them in an appropriate location, such as a folder on your hard drive or SkyDrive so they're easy to find. **SkyDrive** is the Microsoft cloud storage system that lets you easily save, share, and access your files from anywhere you have Internet access. See "Saving Files to SkyDrive" for more information on this topic. **CASE** → Use Word to familiarize yourself with creating and saving a document. First you'll type some notes about a possible location for a corporate meeting, then you'll save the information for later use.

**QUICK TIP**

A filename can be up to 255 characters, including a file extension, and can include upper- or lowercase characters and spaces, but not ?, ", /, \, <, >, \*, |, or :.

1. Click the **Word program button**  on the taskbar, click **Blank document**, then click the **Zoom In button**  until the level is 120%, if necessary

2. Type **Locations for Corporate Meeting**, then press **[Enter]** twice

The text appears in the document window, and the **insertion point** blinks on a new blank line. The insertion point indicates where the next typed text will appear.

3. Type **Las Vegas, NV**, press **[Enter]**, type **San Diego, CA**, press **[Enter]**, type **Seattle, WA**, press **[Enter]** twice, then type your name

4. Click the **Save button**  on the Quick Access toolbar

Backstage view opens showing various options for saving the file, as shown in **FIGURE A-7**.

5. Click **Computer**, then click **Browse**

Because this is the first time you are saving this document, the Save As command is displayed. Once you choose a location where you will save the file, the Save As dialog box displays, as shown in **FIGURE A-8**. Once a file is saved, clicking  saves any changes to the file *without* opening the Save As dialog box. The Address bar in the Save As dialog box displays the default location for saving the file, but you can change it to any location. The File name field contains a suggested name for the document based on text in the file, but you can enter a different name.

6. Type **OF A-Potential Corporate Meeting Locations**

The text you type replaces the highlighted text. (The "OF A-" in the filename indicates that the file is created in Office Unit A. You will see similar designations throughout this book when files are named.)

7. In the **Save As dialog box**, use the **Address bar** or **Navigation Pane** to navigate to the location where you store your Data Files

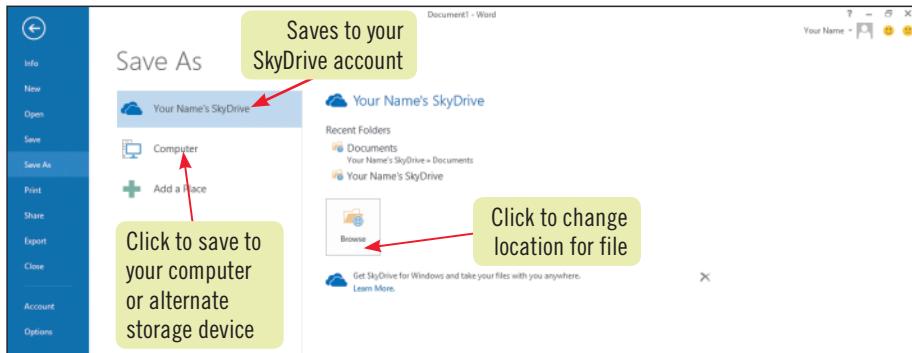
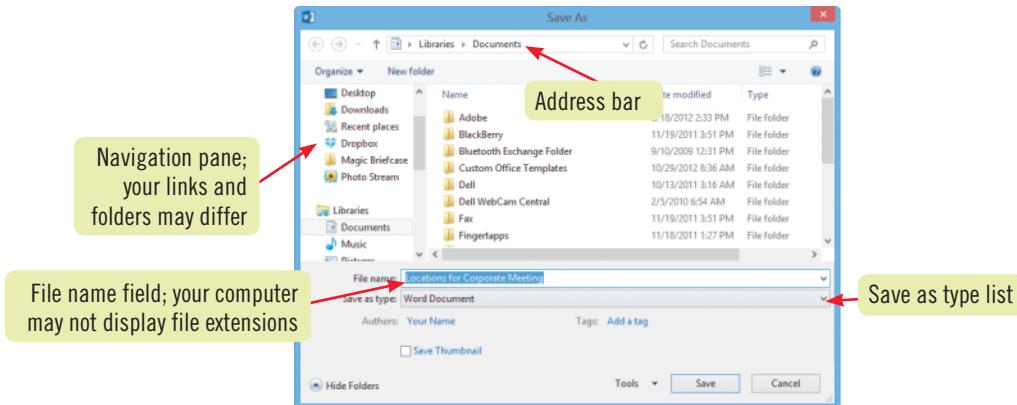
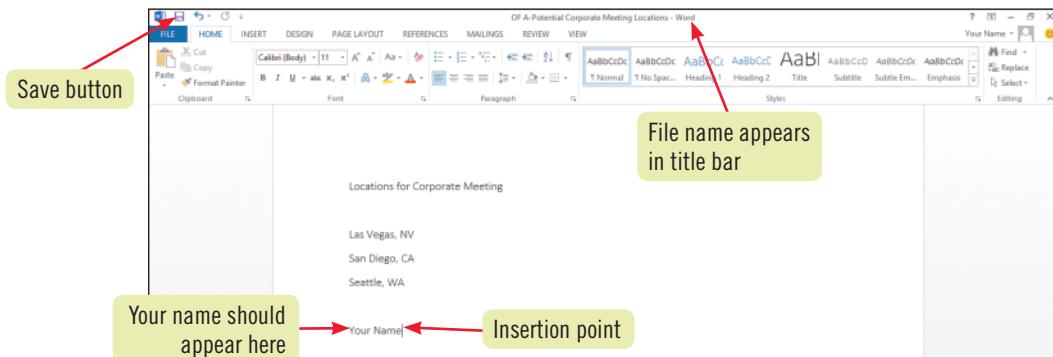
You can store files on your computer, a network drive, your SkyDrive, or any acceptable storage device.

8. Click **Save**

The Save As dialog box closes, the new file is saved to the location you specified, and the name of the document appears in the title bar, as shown in **FIGURE A-9**. (You may or may not see the file extension ".docx" after the filename.) See **TABLE A-1** for a description of the different types of files you create in Office, and the file extensions associated with each.

**TABLE A-1:** Common filenames and default file extensions

file created in	is called a	and has the default extension
Word	document	.docx
Excel	workbook	.xlsx
PowerPoint	presentation	.pptx
Access	database	.accdb

**FIGURE A-7:** Save As screen in Backstage view**FIGURE A-8:** Save As dialog box**FIGURE A-9:** Saved and named Word document

## Saving files to SkyDrive

All Office programs include the capability to incorporate feedback—called **online collaboration**—across the Internet or a company network. Using **cloud computing** (work done in a virtual environment), you can take advantage of commonly shared features such as a consistent interface. Using SkyDrive, a free file storage service from Microsoft, you and your colleagues can create and store documents in the cloud and make the documents available anywhere there is Internet access to whomever you choose. To use SkyDrive, you need a free Microsoft Account, which you obtain at the [signup.live.com](http://signup.live.com) website. You can find more information about SkyDrive in the “Working in the Cloud” appendix. When you are logged into your Microsoft account and you save a file in any of

the Office apps, the first option in the Save As screen is your SkyDrive. Double-click your SkyDrive option and the Save As dialog box opens displaying a location in the address bar unique to your SkyDrive account. Type a name in the File name text box, then click Save and your file is saved to your SkyDrive. To sync your files with SkyDrive, you’ll need to download and install the SkyDrive for Windows app. Then, when you open Explorer, you’ll notice a new folder called SkyDrive has been added to the Users folder. In this folder is a sub-folder called Documents, in which an updated copy of your Office app files resides. This means if your Internet connection fails, you can work on your files offline. The SkyDrive folder also displays Explorer in the list of Favorites folders.

**Learning Outcomes**

- Open an existing file
- Save a file with a new name

# Open a File and Save It with a New Name

In many cases as you work in Office, you start with a blank document, but often you need to use an existing file. It might be a file you or a coworker created earlier as a work in progress, or it could be a complete document that you want to use as the basis for another. For example, you might want to create a budget for this year using the budget you created last year; instead of typing in all the categories and information from scratch, you could open last year's budget, save it with a new name, and just make changes to update it for the current year. By opening the existing file and saving it with the Save As command, you create a duplicate that you can modify to suit your needs, while the original file remains intact.

**CASE** Use Excel to open an existing workbook file, and save it with a new name so the original remains unchanged.

## STEPS

**TROUBLE**

If you are running Windows 7, click the Start button on the taskbar, type excel, then click Excel 2013.

1. Go to the Windows 8 Start screen, type exc, click Excel 2013, click Open Other Workbooks, click Computer on the navigation bar, then click Browse

The Open dialog box opens, where you can navigate to any drive or folder accessible to your computer to locate a file. You can click Recent Workbooks on the navigation bar to display a list of recent workbooks; click a file in the list to open it.

2. In the Open dialog box, navigate to the location where you store your Data Files

The files available in the current folder are listed, as shown in FIGURE A-10. This folder displays one file.

3. Click OFFICE A-1.xlsx, then click Open

The dialog box closes, and the file opens in Excel. An Excel file is an electronic spreadsheet, so the new file displays a grid of rows and columns you can use to enter and organize data.

4. Click the FILE tab, click Save As on the navigation bar, then click Browse

The Save As dialog box opens, and the current filename is highlighted in the File name text box. Using the Save As command enables you to create a copy of the current, existing file with a new name. This action preserves the original file and creates a new file that you can modify.

5. Navigate to the location where you store your Data Files if necessary, type OF A-Budget for Corporate Meeting in the File name text box, as shown in FIGURE A-11, then click Save

A copy of the existing workbook is created with the new name. The original file, Office A-1.xlsx, closes automatically.

6. Click cell A19, type your name, then press [Enter], as shown in FIGURE A-12

In Excel, you enter data in cells, which are formed by the intersection of a row and a column. Cell A19 is at the intersection of column A and row 19. When you press [Enter], the cell pointer moves to cell A20.

7. Click the Save button  on the Quick Access toolbar

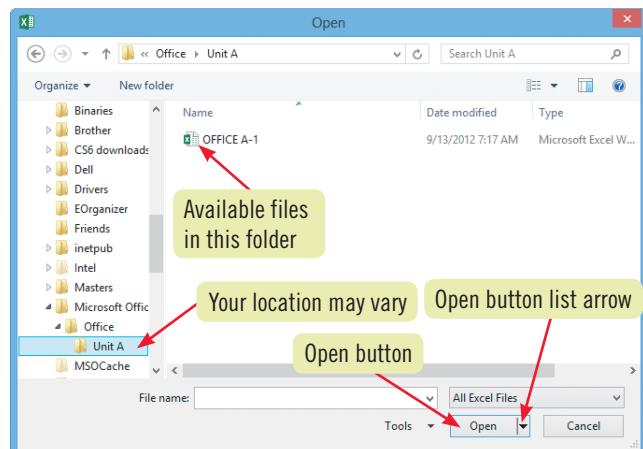
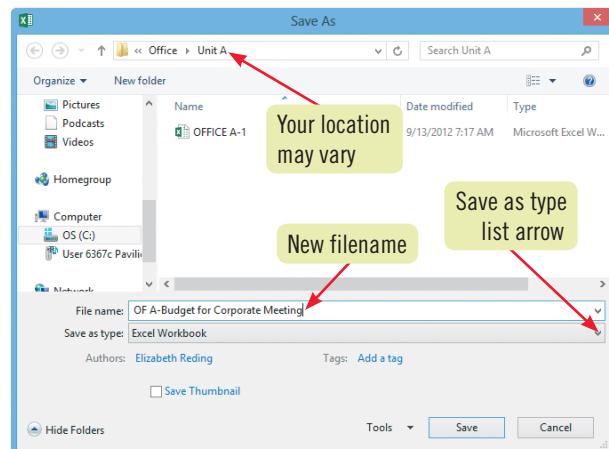
Your name appears in the workbook, and your changes to the file are saved.

### Exploring File Open options

You might have noticed that the Open button in the Open dialog box includes a list arrow to the right of the button. In a dialog box, if a button includes a list arrow you can click the button to invoke the command, or you can click the list arrow to see a list of related commands that you can apply to a selected file in the file list. The Open list arrow includes several related commands, including Open Read-Only and Open as Copy.

Clicking Open Read-Only opens a file that you can only save with a new name; you cannot make changes to the original file.

Clicking Open as Copy creates and opens a copy of the selected file and inserts the word "Copy" in the file's title. Like the Save As command, these commands provide additional ways to use copies of existing files while ensuring that original files do not get changed by mistake.

**FIGURE A-10:** Open dialog box**FIGURE A-11:** Save As dialog box

Address for cell A19 formed by column A and row 19

**FIGURE A-12:** Your name added to the workbook

	Price	Number of People	Totals
Airfare	\$300.00	12	\$3,600.00
Hotel	\$325.00	12	\$3,900.00
Car rental	\$ 30.00	12	\$ 360.00
Meals	\$130.00	12	\$1,560.00
Totals	\$785.00		\$9,420.00

## Working in Compatibility Mode

Not everyone upgrades to the newest version of Office. As a general rule, new software versions are **backward compatible**, meaning that documents saved by an older version can be read by newer software. To open documents created in older Office versions, Office 2013 includes a feature called Compatibility Mode. When you use Office 2013 to open a file created in an earlier version of Office, "Compatibility Mode" appears in the title bar, letting you know the file was created in an earlier but usable version of the program. If you are working with someone who may

not be using the newest version of the software, you can avoid possible incompatibility problems by saving your file in another, earlier format. To do this in an Office program, click the FILE tab, click Save As on the navigation bar, click the location where you want to save the file, then click Browse. In the Save As dialog box, click the Save as type list arrow in the Save As dialog box, then click an option on the list. For example, if you're working in Excel, click Excel 97-2003 Workbook format in the Save as type list to save an Excel file so it can be opened in Excel 97 or Excel 2003.

**Learning Outcomes**

- Describe and change views in an app
- Print a document

# View and Print Your Work

Each Microsoft Office program lets you switch among various **views** of the document window to show more or fewer details or a different combination of elements that make it easier to complete certain tasks, such as formatting or reading text. Changing your view of a document does not affect the file in any way, it affects only the way it looks on screen. If your computer is connected to a printer or a print server, you can easily print any Office document using the Print button on the Print tab in Backstage view. Printing can be as simple as **previewing** the document to see exactly what a document will look like when it is printed and then clicking the Print button. Or, you can customize the print job by printing only selected pages. The Backstage view can also be used to share your document with others, or to export it in a different format. **CASE** *Experiment with changing your view of a Word document, and then preview and print your work.*

## STEPS

### 1. Click the Word program button on the taskbar

Word becomes the active program, and the document fills the screen.

#### QUICK TIP

To minimize the display of the buttons and commands on tabs, click the Collapse the Ribbon button  on the lower-right end of the Ribbon.

### 2. Click the VIEW tab on the Ribbon

In most Office programs, the VIEW tab on the Ribbon includes groups and commands for changing your view of the current document. You can also change views using the View buttons on the status bar.

### 3. Click the Read Mode button in the Views group on the VIEW tab

The view changes to Read Mode view, as shown in **FIGURE A-13**. This view shows the document in an easy-to-read, distraction-free reading mode. Notice that the Ribbon is no longer visible on screen.

### 4. Click the Print Layout button on the Status bar

You return to Print Layout view, the default view in Word.

### 5. Click the FILE tab, then click Print on the navigation bar

The Print tab opens in Backstage view. The preview pane on the right side of the window displays a preview of how your document will look when printed. Compare your screen to **FIGURE A-14**. Options in the Settings section enable you to change margins, orientation, and paper size before printing. To change a setting, click it, and then click a new setting. For instance, to change from Letter paper size to Legal, click Letter in the Settings section, then click Legal on the menu that opens. The document preview updates as you change the settings. You also can use the Settings section to change which pages to print. If your computer is connected to multiple printers, you can click the current printer in the Printer section, then click the one you want to use. The Print section contains the Print button and also enables you to select the number of copies of the document to print.

### 6. If your school allows printing, click the Print button in the Print section (otherwise, click the Back button )

If you chose to print, a copy of the document prints, and Backstage view closes.

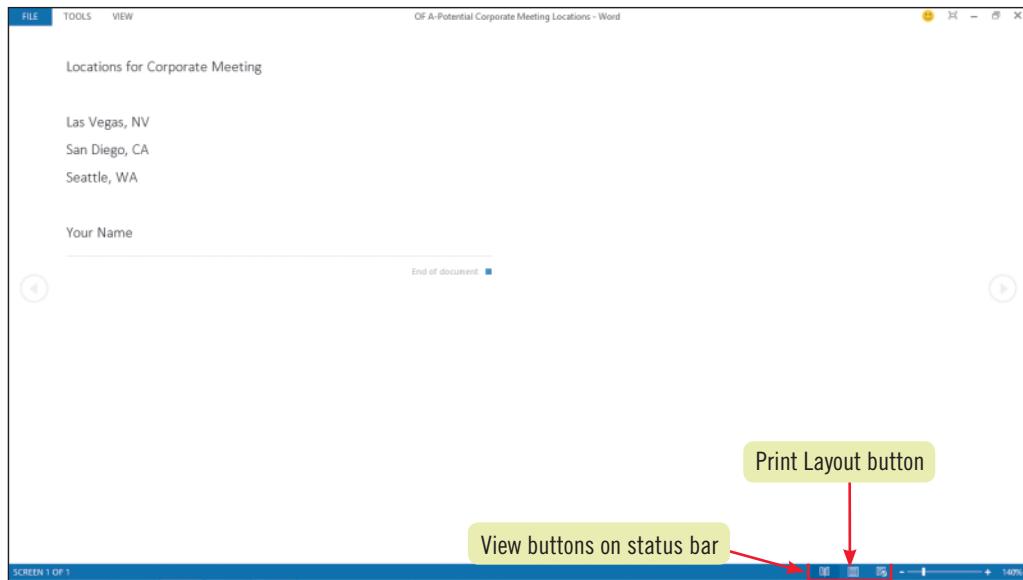
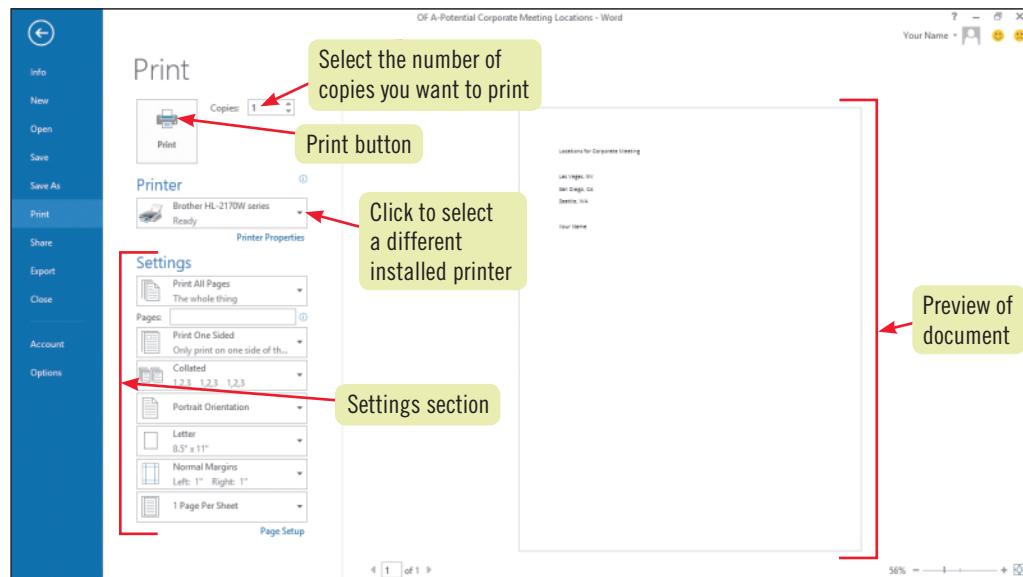
#### QUICK TIP

You can add the Quick Print button  to the Quick Access toolbar by clicking the Customize Quick Access Toolbar button, then clicking Quick Print. The Quick Print button prints one copy of your document using the default settings.

## Customizing the Quick Access toolbar

You can customize the Quick Access toolbar to display your favorite commands. To do so, click the Customize Quick Access Toolbar button  in the title bar, then click the command you want to add. If you don't see the command in the list, click More Commands to open the Quick Access Toolbar tab of the current program's Options dialog box. In the Options dialog box, use the Choose commands from list to choose a category, click the desired command in the list on the left, click Add to add it to the

Quick Access toolbar, then click OK. To remove a button from the toolbar, click the name in the list on the right in the Options dialog box, then click Remove. To add a command to the Quick Access toolbar as you work, simply right-click the button on the Ribbon, then click Add to Quick Access Toolbar on the shortcut menu. To move the Quick Access toolbar below the Ribbon, click the Customize Quick Access Toolbar button, and then click Show Below the Ribbon.

**FIGURE A-13:** Web Layout view**FIGURE A-14:** Print settings on the FILE tab

## Creating a screen capture

A **screen capture** is a digital image of your screen, as if you took a picture of it with a camera. For instance, you might want to take a screen capture if an error message occurs and you want a Technical Support person to see exactly what's on the screen. You can create a screen capture using features found in Windows 8 or Office 2013. Both Windows 7 and Windows 8 come with the Snipping Tool, a separate program designed to capture whole screens or portions of screens. To open the Snipping Tool, click the Start screen thumbnail, type "sni", then click the Snipping Tool when it appears in the left panel. After opening the Snipping Tool, click New, then drag the pointer on the screen to select the area of the screen you want to capture. When you release the mouse button, the screen capture opens in the Snipping Tool

window, and you can save, copy, or send it in an email. In Word, Excel, and PowerPoint 2013, you can capture screens or portions of screens and insert them in the current document using the Screenshot button in the Illustrations group on the INSERT tab. And finally, you can create a screen capture by pressing [PrtScn]. (Keyboards differ, but you may find the [PrtScn] button in or near your keyboard's function keys.) Pressing this key places a digital image of your screen in the Windows temporary storage area known as the **Clipboard**. Open the document where you want the screen capture to appear, click the HOME tab on the Ribbon (if necessary), then click the Paste button in the Clipboard group on the HOME tab. The screen capture is pasted into the document.

**Learning Outcomes**

- Display a ScreenTip
- Use Help
- Close a file
- Exit an app

# Get Help, Close a File, and Exit an App

You can get comprehensive help at any time by pressing [F1] in an Office app or clicking the Help button on the right end of the title bar. You can also get help in the form of a ScreenTip by pointing to almost any icon in the program window. When you're finished working in an Office document, you have a few choices regarding ending your work session. You close a file by clicking the FILE tab, then clicking Close; you exit a program by clicking the Close button on the title bar. Closing a file leaves a program running, while exiting a program closes all the open files in that program as well as the program itself. In all cases, Office reminds you if you try to close a file or exit a program and your document contains unsaved changes. **CASE** *Explore the Help system in Microsoft Office, and then close your documents and exit any open programs.*

## STEPS

1. **Point to the Zoom button in the Zoom group on the VIEW tab of the Ribbon**  
A ScreenTip appears that describes how the Zoom button works and explains where to find other zoom controls.
2. **Click the Microsoft Word Help (F1) button  in the upper-right corner of the title bar**  
The Word Help window opens, as shown in **FIGURE A-15**, displaying the home page for help in Word. Each entry is a hyperlink you can click to open a list of topics. The Help window also includes a toolbar of useful Help commands such as printing and increasing the font size for easier readability, and a Search field. If you are not connected to Office.com, a gold band is displayed telling you that you are not connected. Office.com supplements the help content available on your computer with a wide variety of up-to-date topics, templates, and training. If you are not connected to the Internet, the Help window displays only the help content available on your computer.
3. **Click the Learn Word basics link in the Getting started section of the Word Help window**  
The Word Help window changes, and a list of basic tasks appears below the topic.
4. **If necessary, scroll down until the Choose a template topic fills the Word Help window**  
The topic is displayed in the pane of the Help window, as shown in **FIGURE A-16**. The content in the window explains that you can create a document using a template (a pre-formatted document) or just create a blank document.
5. **Click in the Search online help text box, type Delete, then press [Enter]**  
The Word Help window now displays a list of links to topics about different types of deletions that are possible within Word.
6. **Click the Keep Help on Top button  in the upper-right corner (below the Close button)**  
The Pin Help button rotates so the pin point is pointed towards the bottom of the screen: this allows you to read the Help window while you work on your document.
7. **Click the Word document window, then notice the Help window remains visible**
8. **Click a blank area of the Help window, click  to Unpin Help, click the Close button  in the Help window, then click the Close button  in the upper-right corner of the screen**  
Word closes, and the Excel program window is active.
9. **Click the Close button  to exit Excel, click the Close button  to exit the remaining Excel workbook, click the PowerPoint program button  on the taskbar if necessary, then click the Close button  to exit PowerPoint**  
Excel and PowerPoint both close.

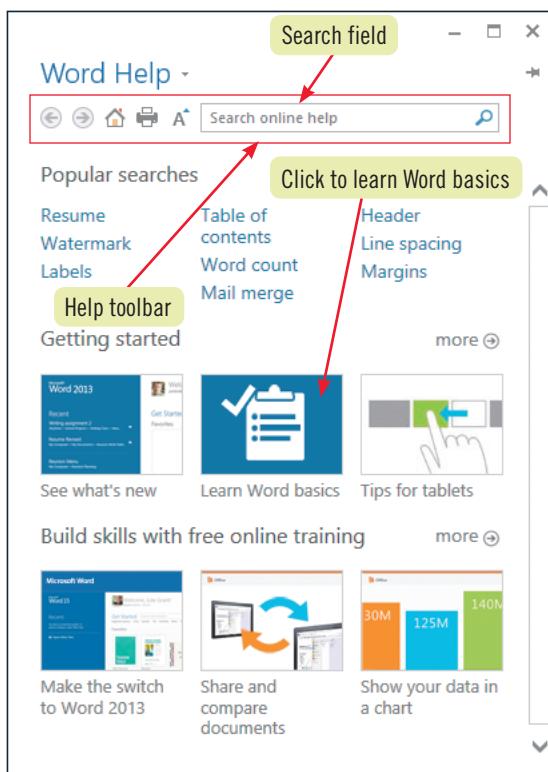
**QUICK TIP**

You can also open Help (in any of the Office apps) by pressing [F1].

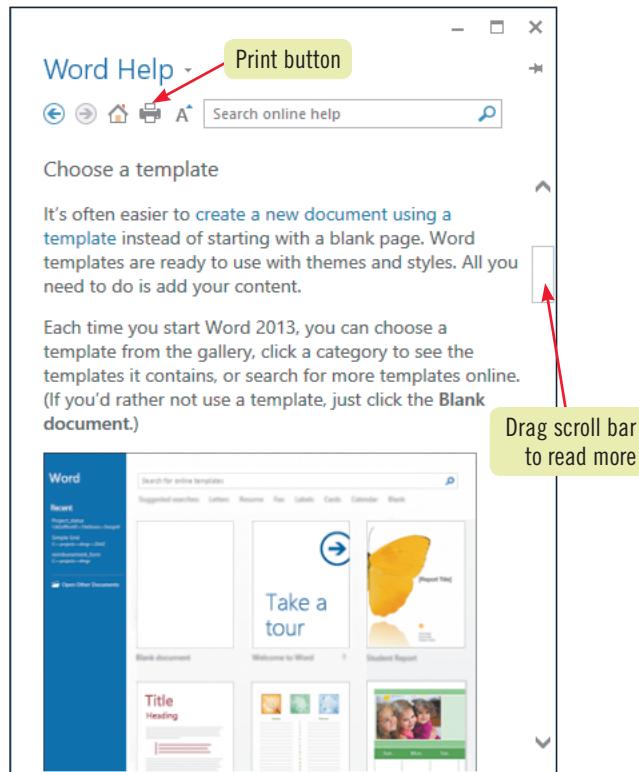
**QUICK TIP**

You can print the entire current topic by clicking the Print button  on the Help toolbar, then clicking Print in the Print dialog box.

**FIGURE A-15:** Word Help window



**FIGURE A-16:** Create a document Help topic



Office 2013

### Enabling touch mode

If you are using a touch screen with any of the Office 2013 apps, you can enable the touch mode to give the user interface a more spacious look. Enable touch mode by clicking the Quick Access

toolbar list arrow, then clicking Touch/Mouse Mode to select it. Then you'll see the Touch Mode button in the Quick Access toolbar. Click , and you'll see the interface spread out.

### Recovering a document

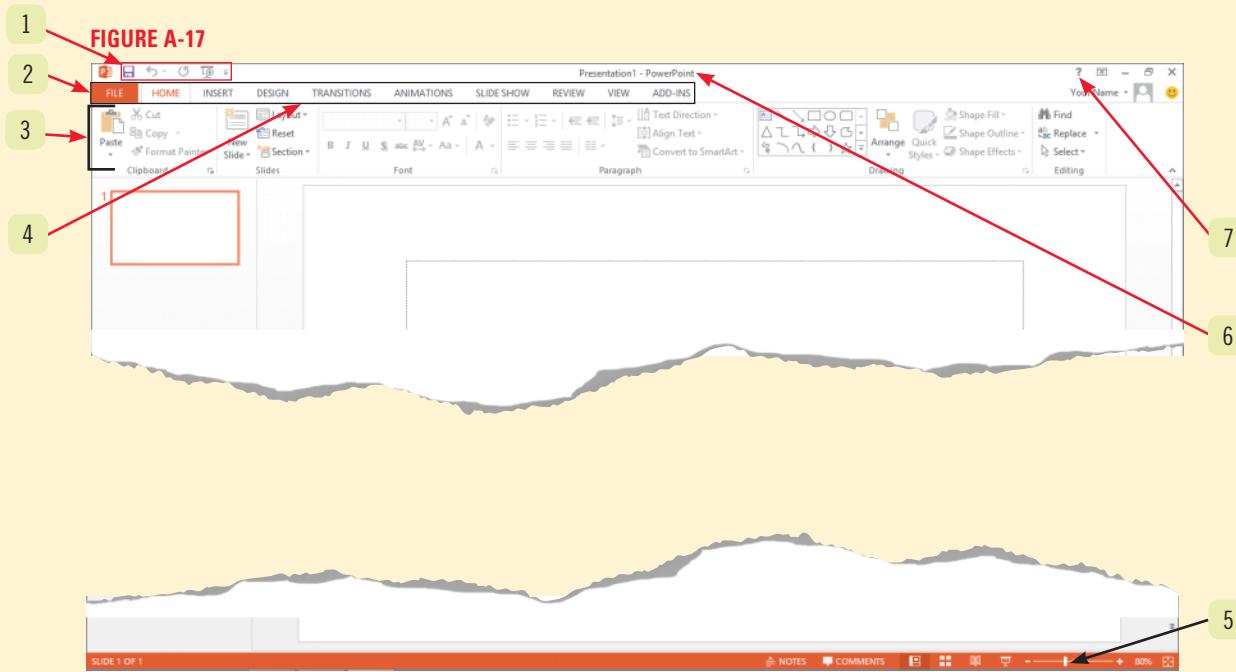
Each Office program has a built-in recovery feature that allows you to open and save files that were open at the time of an interruption such as a power failure. When you restart the program(s) after an interruption, the Document Recovery task pane opens on the left side of your screen displaying both original and recovered versions of the files that were open. If you're not sure which file to open (original or recovered), it's usually better to open the

recovered file because it will contain the latest information. You can, however, open and review all versions of the file that were recovered and save the best one. Each file listed in the Document Recovery task pane displays a list arrow with options that allow you to open the file, save it as is, delete it, or show repairs made to it during recovery.

# Practice

## Concepts Review

Label the elements of the program window shown in **FIGURE A-17**.



Match each project with the program for which it is best suited.

- |                          |   |
|--------------------------|---|
| 8. Microsoft Access      | a. Corporate convention budget with expense projections |
| 9. Microsoft Excel       | b. Presentation for city council meeting                |
| 10. Microsoft Word       | c. Business cover letter for a job application          |
| 11. Microsoft PowerPoint | d. Department store inventory                           |

## Independent Challenge 1

You just accepted an administrative position with a local independently owned produce vendor that has recently invested in computers and is now considering purchasing Microsoft Office for the company. You are asked to propose ways Office might help the business. You produce your document in Word.

- a. Start Word, create a new Blank document, then save the document as **OF A-Microsoft Office Document** in the location where you store your Data Files.
- b. Change the zoom factor to 120%, type **Microsoft Word**, press [Enter] twice, type **Microsoft Excel**, press [Enter] twice, type **Microsoft PowerPoint**, press [Enter] twice, type **Microsoft Access**, press [Enter] twice, then type your name.
- c. Click the line beneath each program name, type at least two tasks you can perform using that program (each separated by a comma), then press [Enter].
- d. Save the document, then submit your work to your instructor as directed.
- e. Exit Word.

# 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

Microsoft® product screenshots used with permission from Microsoft® Corporation.

**Learning Outcomes**

- Describe relational database concepts
- Explain when to use a database

# 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

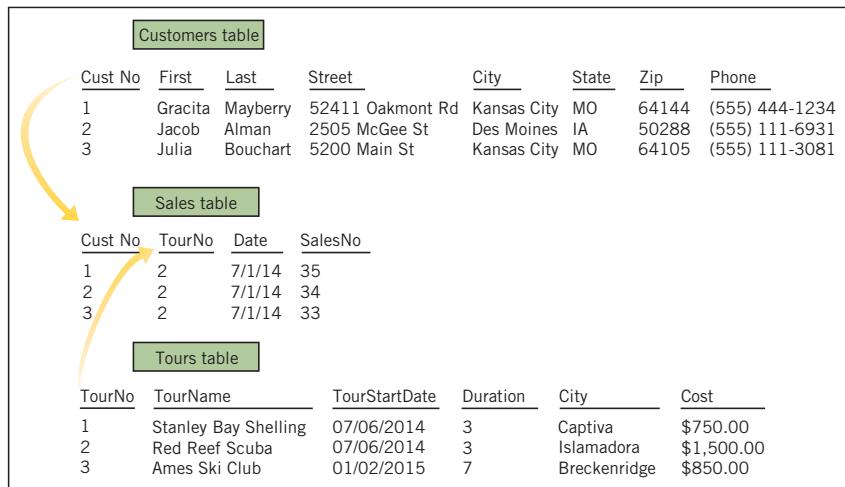
A screenshot of a Microsoft Excel spreadsheet titled 'Sales Data'. The columns are labeled A through I. Row 1 contains column headers: CustNo, FName, LName, SalesNo, SaleDate, TourName, TourStartDate, City, and Price. Rows 2 through 22 contain data. An annotation on the left side highlights row 10, which shows 'Kristen Collins' as both the first and last name. Another annotation on the right side highlights row 11, which shows 'Kristen Collins' again. Red arrows point from these annotations to the respective rows in the spreadsheet.

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

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

Customer information is duplicated when the same customer purchases multiple tours

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



**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

**Learning Outcomes**

- Start Access and open a database
- Identify Access components
- Open and define Access objects

# 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.

**TROUBLE**

If a yellow Security Warning bar appears below the Ribbon, click Enable Content.

### 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.

**TROUBLE**

If the Navigation Pane is not open, click the Shutter Bar Open/Close button  to open it and view the database 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.

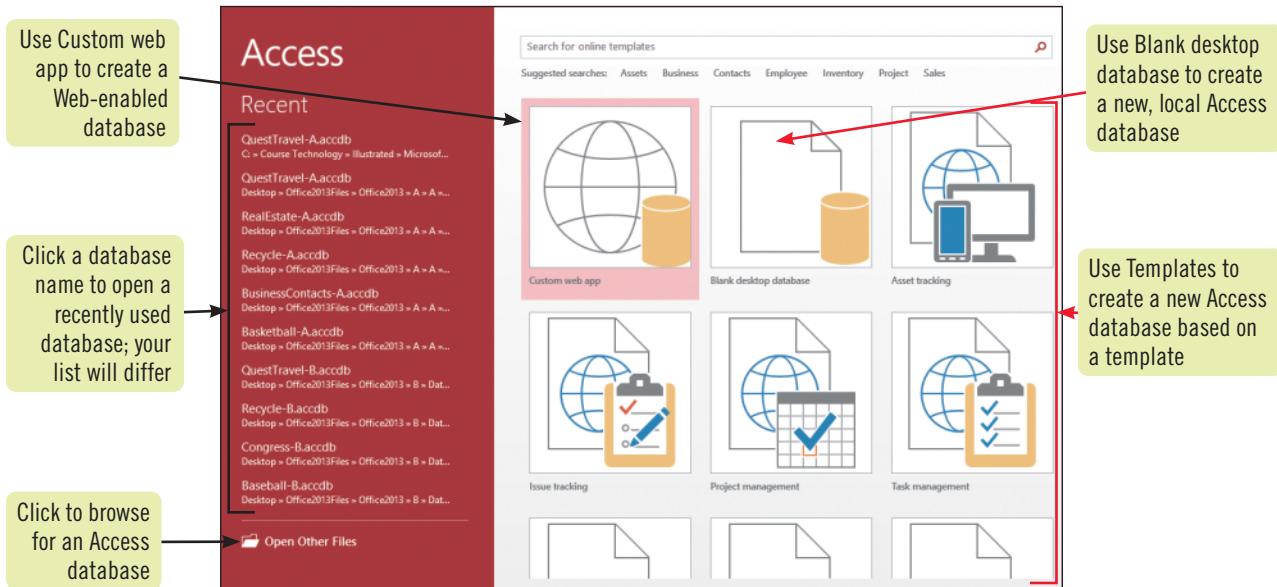
### 6. Double-click the TourSales report to open it

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.

**FIGURE A-3:** Opening Microsoft Access 2013 window



**FIGURE A-4:** Objects in the QuestTravel-A database

The screenshot shows the Microsoft Access 2013 ribbon with the 'HOME' tab selected. Below the ribbon is a 'Navigation Pane' containing a tree view of database objects: Sales, States, TourCategories, Tours, Queries, CustomerInvoice, CustomerSales, TourRoster, TourSales, ToursByCategory, ToursByState, Forms, Customers, ReportNavigation, SalesSubForm, Switchboard, TourByCategory, Reports, and Tours. Several tabs are visible along the top ribbon bar: FILE, HOME, Insert, Page Layout, Design, View, Clipboard, All Access ..., Tours, Customers, TourSales, CustomerRoster, and TourSales. Callouts with arrows point to specific elements:

- 'Shutter Bar Open/ Close button' points to the 'All Access ...' button in the ribbon.
- 'Path to database; yours will differ' points to the status bar at the bottom of the window.
- 'TourSales report tab' points to the 'TourSales' tab in the ribbon.
- 'CustomerRoster form tab' points to the 'CustomerRoster' tab in the ribbon.
- 'TourSales query tab' points to the 'TourSales' tab in the ribbon.
- 'Customers table tab' points to the 'Customers' tab in the ribbon.
- 'American Legacy Rally' points to a specific record in a table.

**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

**Learning Outcomes**

- Create a database
- Create a table
- Define key database terms

**STEPS**

# Create a Database

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.

**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]**

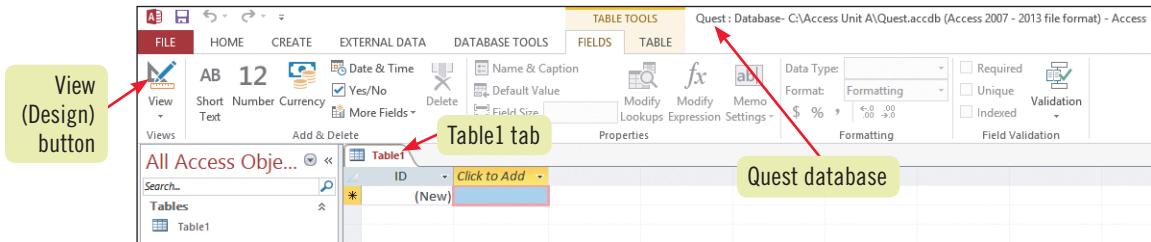
Because 1/32/1980 is not a valid date, Access does not allow you to make that entry and displays an error message, as shown in **FIGURE A-7**. This shows that selecting the best data type for each field in Table Design View before entering data in Datasheet View helps prevent data entry errors.

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

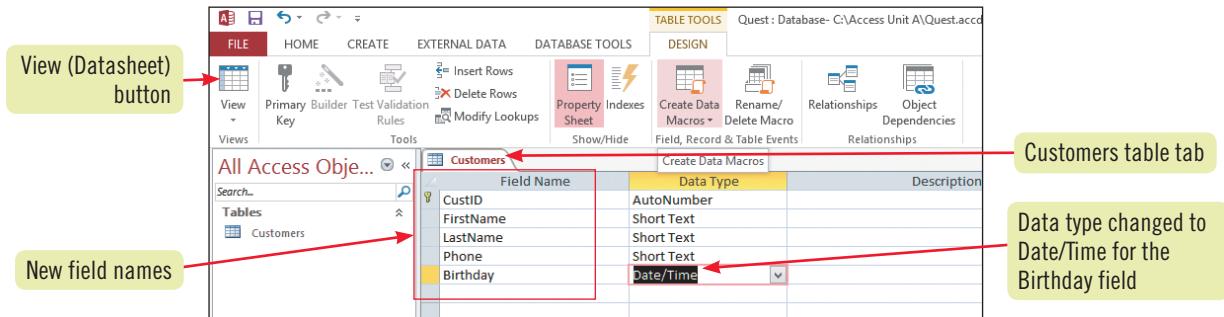
**TROUBLE**

Tab through the CustID field rather than typing a value. The CustID value automatically increments to the next number.

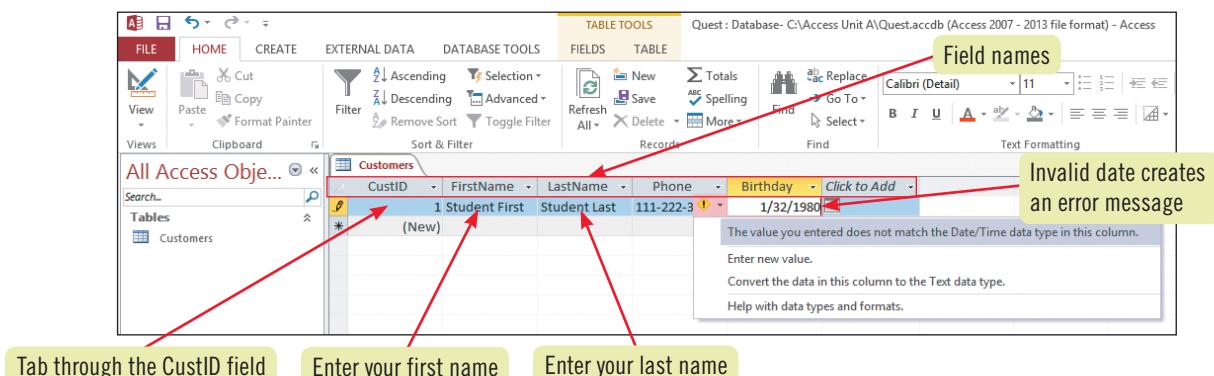
**FIGURE A-5:** Creating a database with a new table



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



**FIGURE A-7:** Entering your first record in the Customers table



**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

**Learning Outcomes**

- Create a table in Table Design View
- Set appropriate data types for fields

**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.

**TROUBLE**

To rename an object, close it, right-click it in the Navigation Pane, and then click Rename.

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.

**TROUBLE**

The CommentID field is an AutoNumber field, which will automatically increment to provide a unique value. If the number has already incremented beyond 1 for the first record, AutoNumber still works as intended.

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

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

Enter these field names

Enter these data types

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

CommentID	Comment	CommentDate	CustID
1	Interested in future tours to New Zealand	1/7/2015	0

(New)

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: <b>tables, queries, forms, reports, macros, and modules</b>

**Learning Outcomes**

- Set the primary key field
- Define one-to-many relationships

**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.

**TROUBLE**

Make sure the DESIGN tab is selected on the Ribbon.

**QUICK TIP**

You can also click the Save button  on the Quick Access toolbar to save a table.

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

The screenshot shows the Microsoft Access 2013 ribbon with the 'DESIGN' tab selected. In the 'Primary Key' section of the ribbon, the 'Primary Key' button is highlighted with a red arrow. The 'Tables' pane on the left shows 'Comments' selected. The 'Comments' table is open in Design View, with its structure shown in a grid. The first column, 'CommentID', is selected and highlighted with a red arrow. The 'Field Name' column header is yellow, and the 'Data Type' column header is grey. The table structure is as follows:

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

A green callout box labeled 'Comments table tab' points to the 'Comments' tab in the ribbon. Another green callout box labeled 'Primary key field symbol' points to the key icon in the ribbon.

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

The screenshot shows the Microsoft Access 2013 ribbon with the 'DESIGN' tab selected. In the 'Primary Key' section of the ribbon, the 'Primary Key' button is highlighted with a red arrow. The 'Tables' pane on the left shows 'Customers' selected. The 'Customers' table is open in Design View, with its structure shown in a grid. The first column, 'CustID', is selected and highlighted with a red arrow. The 'Field Name' column header is yellow, and the 'Data Type' column header is grey. The table structure is as follows:

Field Name	Data Type
CustID	AutoNumber
FirstName	Short Text
LastName	Short Text
Phone	Short Text
Birthday	Date/Time

A green callout box labeled 'Customers table tab' points to the 'Customers' tab in the ribbon. Another green callout box labeled 'Primary key field symbol' points to the key icon in the ribbon.

### 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.

**Learning Outcomes**

- Define common field and foreign key field
- Create one-to-many relationships
- Set referential integrity

# 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

**TROUBLE**

If the Show Table dialog box doesn't appear, click the Show Table button on the DESIGN tab.

**QUICK TIP**

Drag a table's title bar to move the field list.

**TROUBLE**

If you need to delete an incorrect relationship, right-click a relationship line, then click Delete.

**QUICK TIP**

To print the Relationships window, click the Relationship Report button on the DESIGN tab, then click Print.

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.

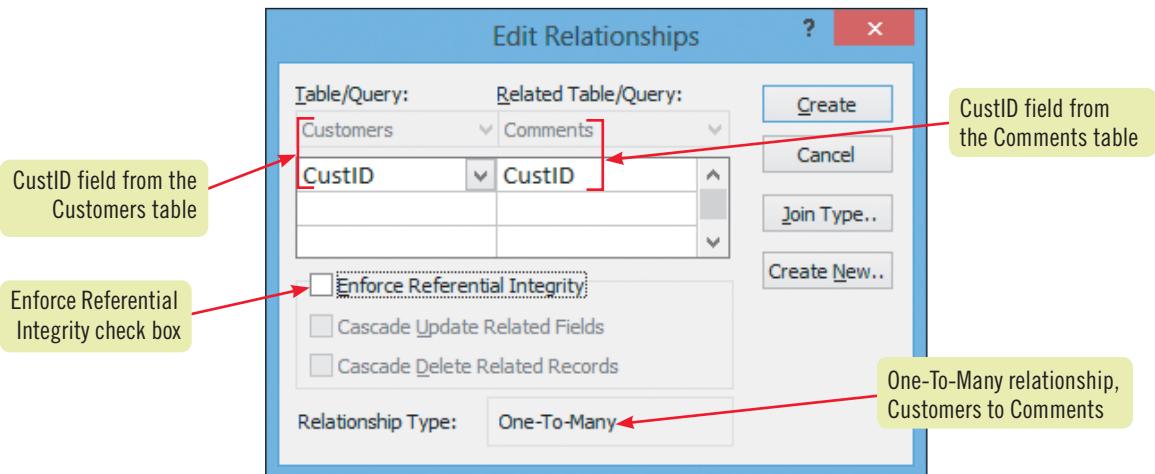
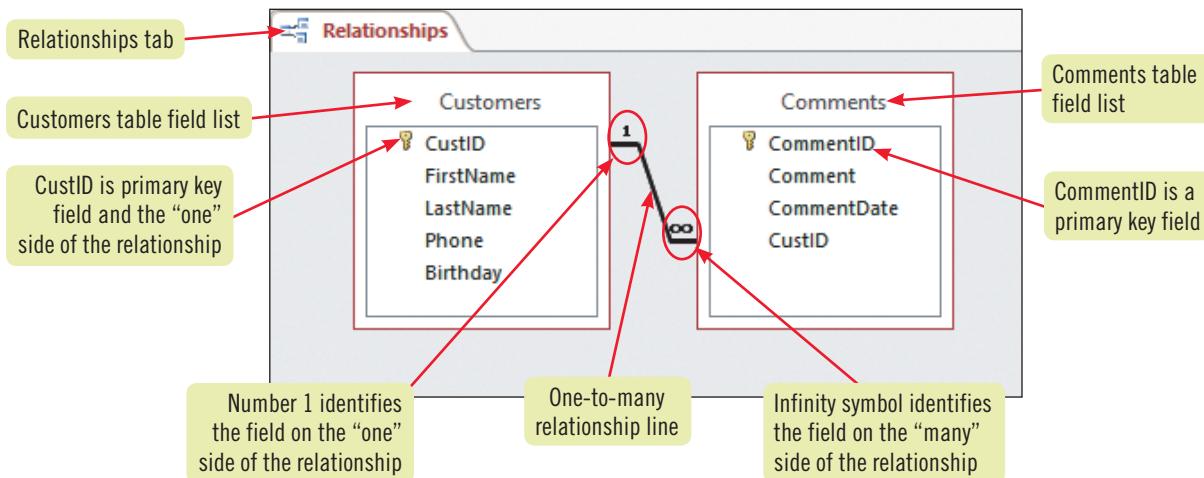
6. Click the **expand button** **[+]** to the left of the first record

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**FIGURE A-13:** Linking the Customers and Comments tables**FIGURE A-14:** Entering comments using the subdatasheet

The screenshot shows the 'Customers' table in a datasheet view. A new row is being added, indicated by '(New)' in the CommentID column. The subdatasheet for comments is expanded, showing three existing records and one new record. The new record has CommentID 3, Comment 'Needs to travel with her seeing eye dog', CommentDate '1/9/2015', and a blank Click to Add field. A callout indicates where to enter new comments and dates. The 'Collapse' and 'Expand' buttons on the left are highlighted.

**Learning Outcomes**

- Navigate records in a datasheet
- Enter records in a datasheet

**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.

**QUICK TIP**

Press [Tab] in the CustID AutoNumber field.

**QUICK TIP**

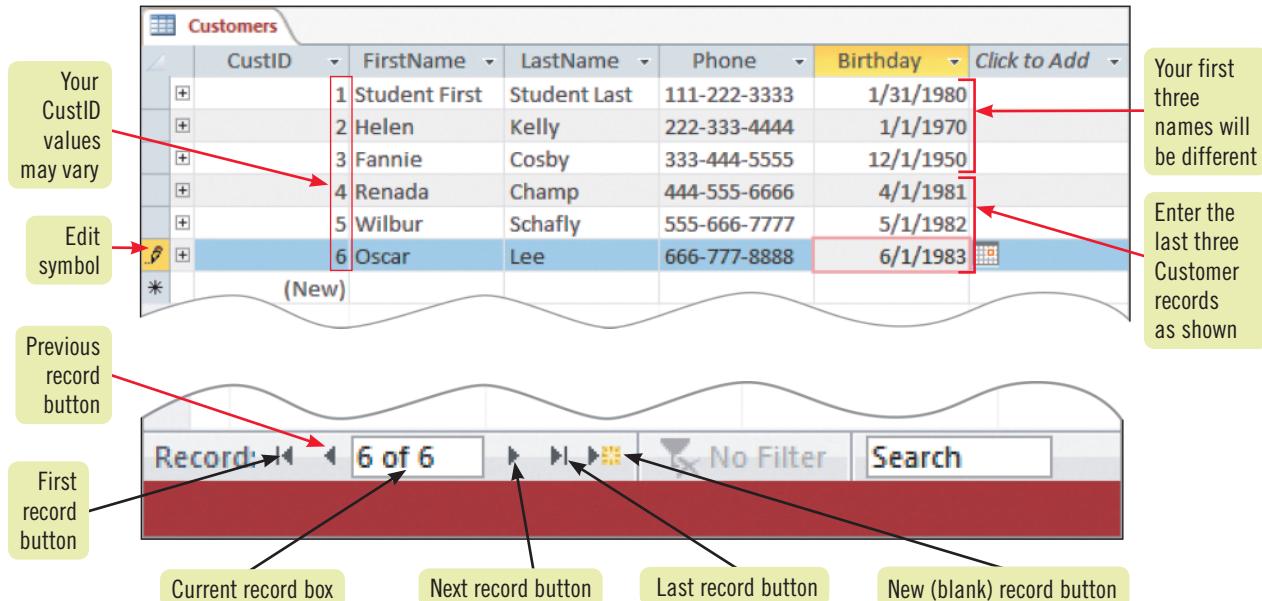
Access databases are multiuser with one important limitation: two users cannot edit the same *record* at the same time. In that case, a message explains that the second user must wait until the first user moves to a different record.

**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



**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.

**Learning Outcomes**

- Edit data in a datasheet
- Delete records in a datasheet
- Preview and print a datasheet

# 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.

**QUICK TIP**

The ScreenTip for the Undo button  displays the action you can undo.

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**

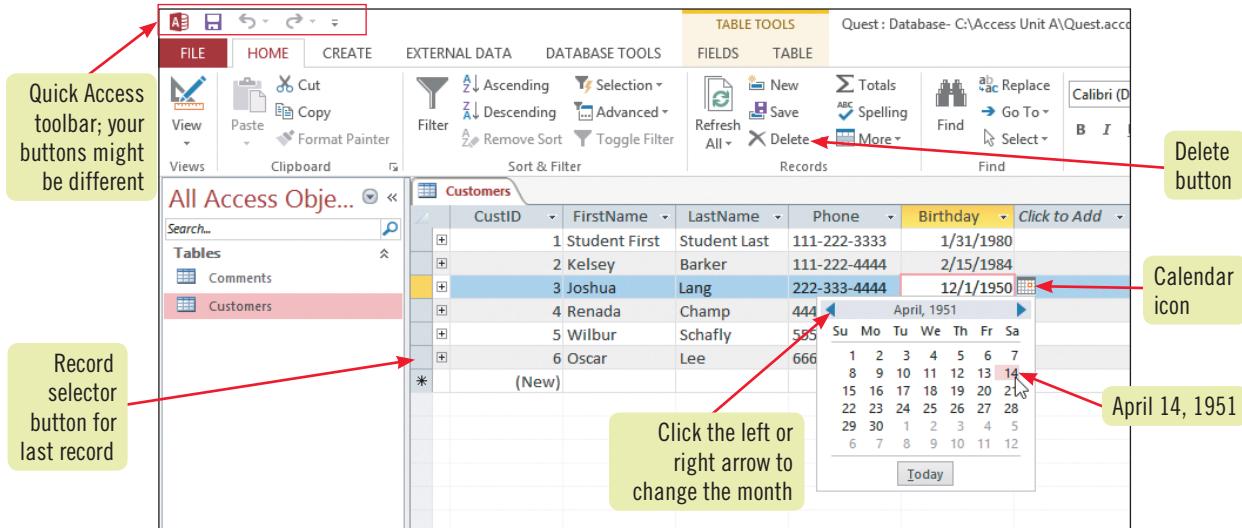
A message warns that you cannot undo a record deletion. The Undo button is dimmed, indicating that you cannot use it. The *Customers* table now has five records, as shown in **FIGURE A-17**. Keep in mind that your CustID values might differ from those in the figure because they are controlled by Access.

**QUICK TIP**

If requested to print the *Customers* datasheet by your instructor, click the **Print** button, then click **OK**.

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

CustID	FirstName	LastName	Phone	Birthday	Click to Add
1	Student First	Student Last	111-222-3333	1/31/1980	
2	Kelsey	Barker	111-222-4444	2/15/1984	
3	Joshua	Lang	222-333-4444	4/14/1951	
4	Renada	Champ	444-555-6666	4/1/1981	
5	Wilbur	Schafty	555-666-7777	5/1/1982	
*	(New)				

**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.

# Practice

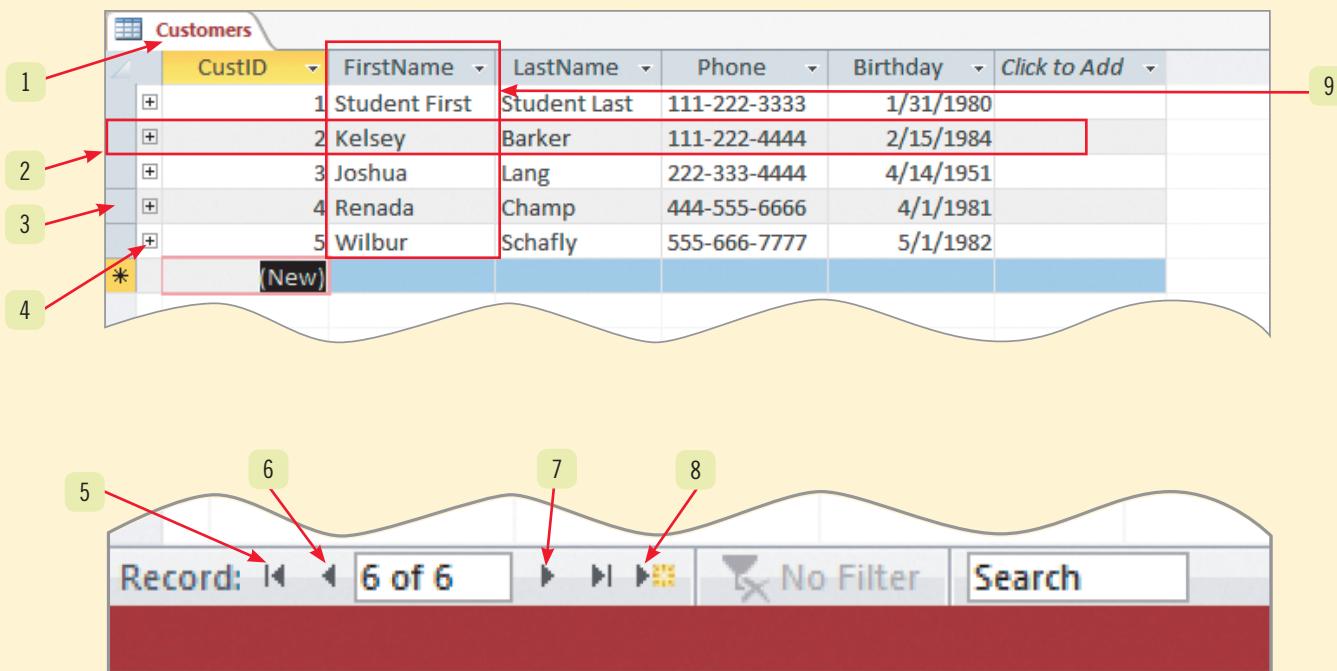


Put your skills into practice with **SAM Projects!** SAM Projects for this unit can be found online. If you have a SAM account, go to [www.cengage.com/sam2013](http://www.cengage.com/sam2013) to download the most recent Project Instruction and Start Files.

## Concepts Review

Label each element of the Access window shown in FIGURE A-18.

FIGURE A-18



Match each term with the statement that best describes it.

- |                      |  |
|----------------------|--|
| <b>10. Field</b>     | a. A subset of data from one or more tables  |
| <b>11. Record</b>    | b. A collection of records for a single subject, such as all the customer records          |
| <b>12. Table</b>     | c. A professional printout of database information   |
| <b>13. Datasheet</b> | d. A spreadsheet-like grid that displays fields as columns and records as rows             |
| <b>14. Query</b>     | e. A group of related fields for one item, such as all of the information for one customer |
| <b>15. Form</b>      | f. A category of information in a table, such as a company name, city, or state            |
| <b>16. Report</b>    | g. An easy-to-use data entry screen  |

Select the best answer from the list of choices.

17. Which of the following is *not* a typical benefit of relational databases?

- |                                   |                                  |
|-----------------------------------|----------------------------------|
| a. Minimized duplicate data entry | c. Faster information retrieval  |
| b. More accurate data             | d. More common than spreadsheets |

**18. Which of the following is *not* an advantage of managing data with relational database software such as Access versus spreadsheet software such as Excel?**

- a. Allows multiple users to enter data simultaneously
- b. Uses a single table to store all data
- c. Provides data entry forms
- d. Reduces duplicate data entry

**19. When you create a new database, which object is created first?**

- a. Form
- b. Query
- c. Module
- d. Table

## Skills Review

**1. Understand relational databases.**

- a. Write down five advantages of managing database information in Access versus using a spreadsheet.
- b. Write a sentence to explain how the terms *field*, *record*, *table*, and *relational database* relate to one another.

**2. Explore a database.**

- a. Start Access.
- b. Open the RealEstate-A.accdb database from the location where you store your Data Files. Click Enable Content if a yellow Security Warning message appears.
- c. Open each of the four tables to study the data they contain. Complete the following table:

table name	number of records	number of fields

- d. Double-click the ListingsByRealtor query in the Navigation Pane to open it. Change any occurrence of Gordon Bono to *your* name. Move to another record to save your changes.
- e. Double-click the RealtorsMainForm in the Navigation Pane to open it. Use the navigation buttons to navigate through the 11 realtors to observe each realtor's listings.
- f. Double-click the RealtorListingReport in the Navigation Pane to open it. The records are listed in ascending order by last name. Scroll through the report to make sure your name is positioned correctly.
- g. Close the RealEstate-A database, and then close Access 2013.

**3. Create a database.**

- a. Start Access, click the Blank desktop database icon, use the Browse button to navigate to the location where you store your Data Files, type **RealEstateMarketing** as the filename, click OK, and then click Create to create a new database named RealEstateMarketing.accdb.

## Skills Review (continued)

- b. Switch to Table Design View, name the table **Prospects**, then enter the following fields and data types:

field name	data type
ProspectID	AutoNumber
ProspectFirst	Short Text
ProspectLast	Short Text
Phone	Short Text
Email	Hyperlink
Street	Short Text
City	Short Text
State	Short Text
Zip	Short Text

- c. Save the table, switch to Datasheet View, and enter two records using *your* name in the first record and your instructor's name in the second. Tab through the ProspectID field, an AutoNumber field.
- d. Enter **TX** (Texas) as the value in the State field for both records. Use school or fictitious (rather than personal) data for all other field data, and be sure to fill out each record completely.
- e. Widen each column in the Prospects table so that all data is visible, then save and close the Prospects table.

### 4. Create a table.

- a. Click the CREATE tab on the Ribbon, click the Table Design button in the Tables group, then create a new table with the following two fields and data types:

field name	data type
StateAbbrev	Short Text
StateName	Short Text

- b. Save the table with the name **States**. Click No when asked if you want Access to create the primary key field.

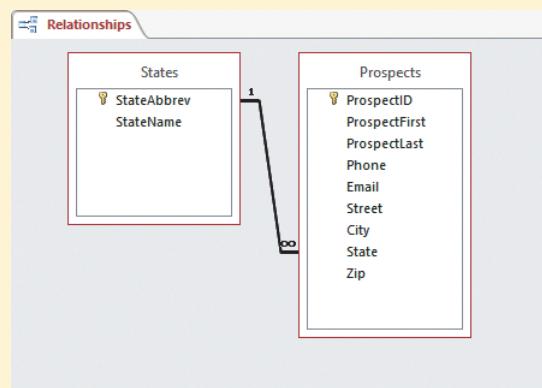
### 5. Create primary keys.

- a. In Table Design View of the States table, set the StateAbbrev as the primary key field.
- b. Save the States table and open it in Datasheet View.
- c. Enter one state record, using **TX** for the StateAbbrev value and **Texas** for the StateName value to match the State value of TX that you entered for both records in the Prospects table.
- d. Close the States table.

### 6. Relate two tables.

- a. From the DATABASE TOOLS tab, open the Relationships window.
- b. Add the States, then the Prospects table to the Relationships window.
- c. Drag the bottom edge of the Prospects table to expand the field list to display all of the fields.
- d. Drag the StateAbbrev field from the States table to the State field of the Prospects table.
- e. In the Edit Relationships dialog box, click the Enforce Referential Integrity check box, then click Create. Your Relationships window should look similar to **FIGURE A-19**. If you connect the wrong fields by mistake, right-click the line connecting the two fields, click Delete, then try again.
- f. Close the Relationships window, and save changes when prompted.

FIGURE A-19



## Skills Review (continued)

### 7. Enter data.

- a. Open the States table and enter the following records:

StateAbbrev field	StateName field
CO	Colorado
IA	Iowa
KS	Kansas
MO	Missouri
NE	Nebraska
OK	Oklahoma
WI	Wisconsin

- b. Add three more state records of your choice for a total of 11 records in the States table using the correct two-character abbreviation for the state and the correctly spelled state name.  
c. Close and reopen the States table. Notice that Access automatically sorts the records by the values in the primary key field, the StateAbbrev field.

### 8. Edit data.

- a. Click the Expand button for the TX record to see the two related records from the Prospects table.  
b. Enter two more prospects in the TX subdatasheet using any fictitious but realistic data, as shown in **FIGURE A-20**.  
Notice that you are not required to enter a value for the State field, the foreign key field in the subdatasheet.

**FIGURE A-20**

The screenshot shows the Microsoft Access application. The main window displays the 'States' table in Datasheet view. The table has two columns: 'StateAbbrev' and 'StateName'. The data includes records for CO (Colorado), IA (Iowa), KS (Kansas), MO (Missouri), NE (Nebraska), OK (Oklahoma), and WI (Wisconsin). The record for TX (Texas) is selected, and its subdatasheet is visible below it. The subdatasheet has columns: ProspectID, ProspectFirst, ProspectLast, Phone, Email, Street, City, and Zip. It contains four records for prospects: Student First, Instructor First, George, and Betsy. The 'Email' column shows email addresses like student@state.edu and instructor@state.edu. The 'Street' column shows addresses such as 12345 College Blvd and 12345 Wagon Wheel. The 'City' column shows Overland Park, Lenexa, Dallas, and Austin. The 'Zip' column shows 66222, 66111, 99888, and 99777 respectively. A new record is being added at the bottom of the subdatasheet, indicated by the '(New)' label in the ProspectID column.

- c. If required by your instructor, print the States datasheet and the Prospects datasheet.  
d. Click the Close button in the upper-right corner of the Access window to close all open objects as well as the RealEstateMarketing.accdb database and Access 2013. If prompted to save any design changes, click Yes.

## Independent Challenge 1

Consider the following twelve subject areas:

- Telephone directory
- Islands of the Caribbean
- College course offerings
- Physical activities
- Restaurant menu items
- Shopping catalog items
- Vehicles
- Conventions
- Movie listings
- Party guest list
- Members of the U.S. House of Representatives
- Ancient wonders of the world

- a. For each subject, build a Word table with 4–7 columns and three rows. In the first row, enter field names that you would expect to see in a table used to manage that subject.
- b. In the second and third rows of each table, enter two realistic records. The first table, Telephone Directory, is completed as an example to follow.

**TABLE: Telephone Directory**

<b>FirstName</b>	<b>LastName</b>	<b>Street</b>	<b>Zip</b>	<b>Phone</b>
Marco	Lopez	100 Main Street	88715	555-612-3312
Christopher	Stafford	253 Maple Lane	77824	555-612-1179

## Independent Challenge 2

You are working with several civic groups to coordinate a community-wide cleanup effort. You have started a database called Recycle-A, which tracks the clubs, their trash deposits, and the trash collection centers that are participating.

- a. Start Access, then open the Recycle-A.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Open each table's datasheet to study the number of fields and records per table. Notice that there are no expand buttons to the left of any records because relationships have not yet been established between these tables.
- c. In a Word document, re-create the following table and fill in the blanks:
- d. Close all table datasheets, then open the

Relationships window and create the following one-to-many relationships. Drag the tables from the Navigation Pane to the Relationships window, and drag the title bars and borders of the field lists to position them as shown in

**FIGURE A-21.**

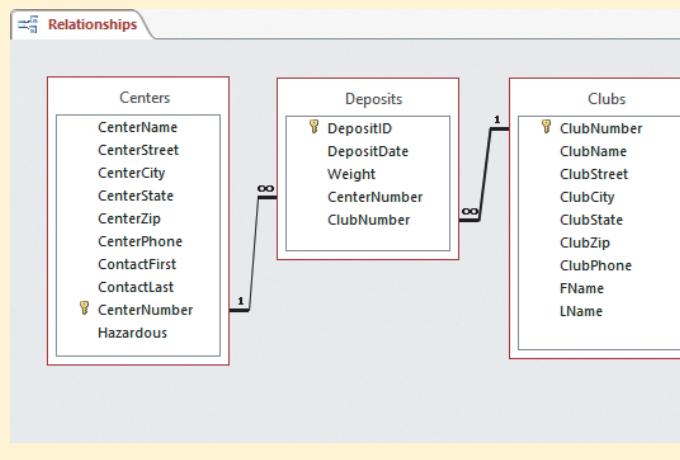
table name	number of fields	number of records

- e. Be sure to enforce referential integrity on all relationships. If you create an incorrect relationship, right-click the line linking the fields, click Delete, and try again. Your final Relationships window should look like **FIGURE A-21**.
- f. Click the Relationship Report button

on the DESIGN tab, and if required by your instructor, click Print to print a copy of the Relationships for Recycle-A report. To close the report, right-click the Relationships for Recycle-A tab and click Close. Click Yes when prompted to save changes to the report with the name **Relationships for Recycle-A**. Save and close the Relationships window.

- g. Open the Clubs table and add a new record with fictitious but realistic data in all of the fields. Enter **8** as the ClubNumber value and *your* name in the FName (first name) and LName (last name) fields.
- h. Expand the subdatasheets for each record in the Clubs table to see the related records from the Deposits table. Which club made the most deposits? Be ready to answer in class. Close the Clubs table.
- i. Open the Centers table and add a new record with fictitious but realistic data in all of the fields. Enter *your* first and last names in the CenterName field and **5** as the CenterNumber.
- j. Expand the subdatasheets for each record in the Centers table to see the related records from the Deposits table. Which center made the most deposits? Be ready to answer in class. Close the Centers table.
- k. Close the Recycle-A.accdb database, then exit Access 2013.

**FIGURE A-21**



## Independent Challenge 3

You are working for an advertising agency that provides advertising media for small and large businesses in the midwestern United States. You have started a database called BusinessContacts-A, which tracks your company's customers. (Note: To complete this Independent Challenge, make sure you are connected to the Internet.)

- a. Start Access and open the BusinessContacts-A.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Add a new record to the Customers table, using any local business name, *your* first and last names, **\$7,788.99** in the YTDSales field, and fictitious but reasonable entries for the rest of the fields.
- c. Edit the Sprint Systems record (ID 1). The Company name should be changed to **MTB Mobile**, and the Street value should be changed to **4455 College St.**
- d. Delete the record for St Luke's Hospital (ID 20), then close the Customers table.
- e. Create a new table with two fields, **State2** and **StateName**. Assign both fields a Short Text data type. The State2 field will contain the two-letter abbreviation for state names. The StateName field will contain the full state name.
- f. Set the State2 field as the primary key field, then save the table as **States**.
- g. Enter at least three records into the States table, making sure that all of the states used in the Customers datasheet are entered in the States table. This includes **KS Kansas**, **MO Missouri**, and any other state you entered in Step b when you added a new record to the Customers table.
- h. Close all open tables. Open the Relationships window, add both the States and Customers field lists to the window, then expand the size of the Customers field list so that all fields are visible.
- i. Build a one-to-many relationship between the States and Customers tables by dragging the State2 field from the States table to the State field of the Customers table to create a one-to-many relationship between the two tables. Enforce referential integrity on the relationship. If you are unable to enforce referential integrity, it means that a value in the State field of the Customers table doesn't have a perfect match in the State2 field of the States table. Open both table datasheets, making sure every state in the State field of the Customers table is also represented in the State2 field of the States table, close all datasheets, then reestablish the one-to-many relationship between the two tables with referential integrity.
- j. Click the Relationship Report button on the DESIGN tab, then if requested by your instructor, click Print to print the report.
- k. Right-click the Relationships for BusinessContacts-A tab, then click Close. Click Yes when prompted to save the report with the name **Relationships for BusinessContacts-A**.
- l. Close the Relationships window, saving changes as prompted.
- m. Close BusinessContacts-A.accdb database, and exit Access 2013.

## Independent Challenge 4: Explore

Now that you've learned about Microsoft Access and relational databases, brainstorm how you might use an Access database in your daily life or career. Start by visiting the Microsoft Web site, and explore what's new about Access 2013.

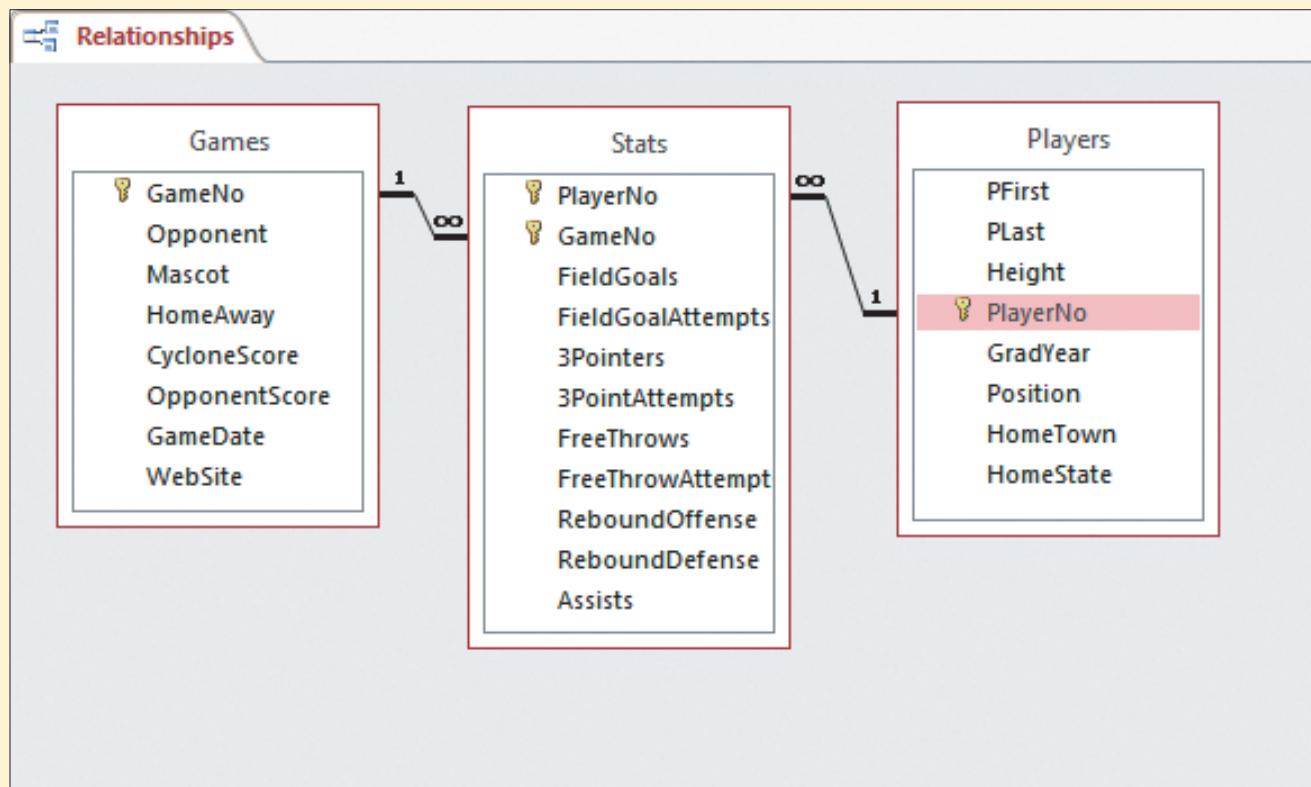
(Note: To complete this Independent Challenge, make sure you are connected to the Internet.)

- a. Using your favorite search engine, look up the keywords *benefits of a relational database* or *benefits of Microsoft Access* to find articles that discuss the benefits of organizing data in a relational database.
- b. Read several articles about the benefits of organizing data in a relational database such as Access, identifying three distinct benefits. Use a Word document to record those three benefits. Also, copy and paste the Web site address of the article you are referencing for each benefit you have identified.
- c. In addition, as you read the articles that describe relational database benefits, list any terminology unfamiliar to you, identifying at least five new terms.
- d. Using a search engine or a Web site that provides a computer glossary such as [www.whatis.com](http://www.whatis.com) or [www.webopedia.com](http://www.webopedia.com), look up the definition of the new terms, and enter both the term and the definition of the term in your document as well as the Web site address where your definition was found.
- e. Finally, based on your research and growing understanding of Access 2013, list three ways you could use an Access database to organize, enhance, or support the activities and responsibilities of your daily life or career. Type your name at the top of the document, and submit it to your instructor as requested.

## Visual Workshop

Open the Basketball-A.accdb database from the location where you store your Data Files, then enable content if prompted. Open the Offense query datasheet, which lists offensive statistics by player by game. Modify any of the Ellyse Howard records to contain *your* first and last names, then move to a different record, observing the power of a relational database to modify every occurrence of that name throughout the database. Close the Offense query, then open the Players table. Note that there are no expand buttons to the left of the records indicating that this table does not participate on the “one” side of a one-to-many relationship. Close the Players table and open the Relationships window. Drag the tables from the Navigation Pane and create the relationships with referential integrity, as shown in **FIGURE A-22**. Note the one-to-many relationship between the Players and Stats table. Print the Relationships report if requested by your instructor and save it with the name **Relationships for Basketball-A**. Close the report and close and save the Relationships window. Now reopen the Players table noting the expand buttons to the left of each record. Expand the subdatasheet for your name and for several other players to observe the “many” records from the Stats table that are now related to each record in the Players table.

**FIGURE A-22**



# Building and Using Queries

**CASE**

Samantha Hooper, tour developer for U.S. group travel at Quest Specialty Travel, has several questions about the customer and tour information in the Quest database. You'll develop queries to provide Samantha with up-to-date answers.

## Unit Objectives

After completing this unit, you will be able to:

- Use the Query Wizard
- Work with data in a query
- Use Query Design View
- Sort and find data
- Filter data
- Apply AND criteria
- Apply OR criteria
- Format a datasheet

## Files You Will Need

QuestTravel-B.accdb  
Recycle-B.accdb  
Membership-B.accdb  
Congress-B.accdb  
Vet-B.accdb  
Baseball-B.accdb

Microsoft® product screenshots used with permission from Microsoft® Corporation.

**Learning Outcomes**

- Describe the purpose for a query
- Create a query with the Simple Query Wizard

# Use the Query Wizard

A **query** answers a question about the information in the database. A query allows you to select a subset of fields and records from one or more tables and then present the selected data as a single datasheet. A major benefit of working with data through a query is that you can focus on only the specific information you need to answer a question, rather than navigating through all the fields and records from many large tables. You can enter, edit, and navigate data in a query datasheet just like a table datasheet. However, keep in mind that Access data is physically stored only in tables, even though you can select, view, and edit it through other Access objects such as queries and forms. Because a query doesn't physically store the data, a query datasheet is sometimes called a **logical view** of the data. Technically, a query is a set of **SQL (Structured Query Language)** instructions, but because you can use Access query tools such as Query Design View to create and modify the query, you are not required to know SQL to build or use Access queries. **CASE** You use the Simple Query Wizard to create a query that displays fields from the Tours and Customers tables in one datasheet.

## STEPS

1. Start Access, open the **QuestTravel-B.accdb** database, enable content if prompted, then maximize the window

Access provides several tools to create a new query. One way is to use the **Simple Query Wizard**, which prompts you for the information it needs to create a new query.

2. Click the **CREATE** tab on the Ribbon, click the **Query Wizard** button in the **Queries** group, then click **OK** to start the Simple Query Wizard

The Simple Query Wizard dialog box opens, prompting you to select the fields you want to view in the new query. You can select fields from one or more existing tables or queries.

3. Click the **Tables/Queries** list arrow, click **Table: Tours**, double-click **TourName**, double-click **City**, double-click **Category**, then double-click **Price**

So far, you've selected four fields from the Tours table to display basic tour information in this query. You also want to add the first and last name information from the Customers table so you know which customers purchased each tour.

4. Click the **Tables/Queries** list arrow, click **Table: Customers**, double-click **FName**, then double-click **LName**

You've selected four fields from the Tours table and two from the Customers table for your new query, as shown in **FIGURE B-1**.

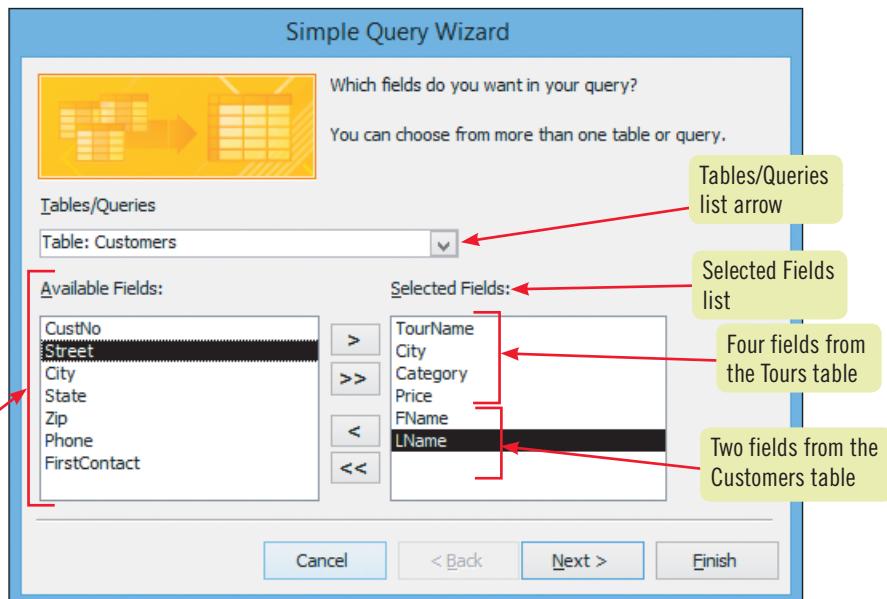
5. Click **Next**, click **Next** to select **Detail**, select **Tours Query** in the title text box, type **TourCustomerList** as the name of the query, then click **Finish**

The TourCustomerList datasheet opens, displaying four fields from the Tours table and two from the Customers table, as shown in **FIGURE B-2**. The query can show which customers have purchased which tours because of the one-to-many table relationships established in the Relationships window.

### TROUBLE

Click the Remove Single Field button if you need to remove a field from the Selected Fields list.

**FIGURE B-1:** Selecting fields using the Simple Query Wizard



**FIGURE B-2:** TourCustomerList datasheet

The screenshot shows a Microsoft Access datasheet titled 'TourCustomerList'. The columns are labeled: TourName, City, Category, Price, FName, and LName. The first four rows of data are highlighted with a red border. Red arrows point from the labels to the corresponding columns: 'Four fields from Tours table' points to the 'TourName', 'City', 'Category', and 'Price' columns; and 'Two fields from Customers table' points to the 'FName' and 'LName' columns. A red arrow also points from the '1 of 102' label at the bottom left to the page number. A callout box at the bottom left indicates '102 records'.

TourName	City	Category	Price	FName	LName
Stanley Bay Shelling	Captiva	Adventure	\$750	Ralph	Hopper
Stanley Bay Shelling	Captiva	Adventure	\$750	Lisa	Wilson
Ames Ski Club	Breckenridge	Adventure	\$850	Kristen	Collins
Stanley Bay Shelling	Captiva	Adventure	\$750	Kris	Goode
Stanley Bay Shelling	Captiva	Adventure	\$750	Lois	Goode
Stanley Bay Shelling	Captiva	Adventure	\$750	Naresh	Hubert
Piper-Heitman Wedding	Captiva	Family	\$550	Julia	Bouchart
Ames Ski Club	Breckenridge	Adventure	\$850	Tom	Camel
Golden Footsteps	Orlando	Site Seeing	\$550	Shirley	Walker
Golden Footsteps	Orlando	Site Seeing	\$550	Zohra	Vogue
Golden Footsteps	Orlando	Site Seeing	\$550	Kathryn	Dotey
Golden Footsteps	Orlando	Site Seeing	\$550	Jose	Hammer
Red Reef Scuba	Islamadora	Adventure	\$1,500	Jane	Taylor
Stanley Bay Shelling	Captiva	Adventure	\$750	Kori	Yode
American Heritage Tour	Philadelphia	Educational	\$1,200	Sharol	Olingback
American Heritage Tour	Philadelphia	Educational	\$1,200	Lois	Goode
American Heritage Tour	Philadelphia	Educational	\$1,200	Tim	Taylor
American Heritage Tour	Philadelphia	Educational	\$1,200	Frank	Houston
Yosemite National Park	Sacramento	Service	\$1,100	Tom	Camel
American Heritage Tour	Philadelphia	Educational	\$1,200	Jane	Taylor
Yosemite National Park	Sacramento	Service	\$1,100	Kristen	Collins
American Heritage Tour	Philadelphia	Educational	\$1,200	Kris	Goode
American Heritage Tour	Philadelphia	Educational	\$1,200	Ralph	Hopper
American Heritage Tour	Philadelphia	Educational	\$1,200	Nancy	Langguth
American Heritage Tour	Philadelphia	Educational	\$1,200	Brad	Langguth

**Learning Outcomes**

- Edit records in a query
- Delete records in a query

**STEPS**

# Work with Data in a Query

You enter and edit data in a query datasheet the same way you do in a table datasheet. Because all data is stored in tables, any edits you make to data in a query datasheet are actually stored in the underlying tables and are automatically updated in all views of the data in other queries, forms, and reports. **CASE** *You want to change the name of one tour and update a customer name. You can use the TourCustomerList query datasheet to make these edits.*

- Double-click Stanley in the TourName field of the first or second record, type Breeze, then click any other record**

All occurrences of Stanley Bay Shelling automatically update to Breeze Bay Shelling because this tour name value is stored only once in the Tours table. See **FIGURE B-3**. The tour name is selected from the Tours table and displayed in the TourCustomerList query for each customer who purchased this tour.

- Double-click Orlando in the City field of any record for the Golden Footsteps tour, type Kissimmee, then click any other record**

All occurrences of Orlando automatically update to Kissimmee because this value is stored only once in the City field of the Tours table for the Golden Footsteps record. The Golden Footsteps tour is displayed in the TourCustomerList query for each customer who purchased the tour.

- Click the record selector button to the left of the first record, click the HOME tab, click the Delete button in the Records group, then click Yes**

You can delete records from a query datasheet the same way you delete them from a table datasheet. Notice that the navigation bar now indicates you have 101 records in the datasheet, as shown in **FIGURE B-4**.

- Right-click the TourCustomerList query tab, then click Close**

Each time a query is opened, it shows a current view of the data. This means that as new tours, customers, or sales are recorded in the database, the next time you open this query, the information will include all updates.

**FIGURE B-3:** Working with data in a query datasheet

TourName	City	Category	Price	FName	LName
Breeze Bay Shelling	Captiva	Adventure	\$750	Ralph	Hopper
Breeze Bay Shelling	Captiva	Adventure	\$750	Lisa	Wilson
Ames Ski Club	Breckenridge	Adventure	\$850	Kristen	Collins
Breeze Bay Shelling	Captiva	Adventure	\$750	Kris	Goode
Breeze Bay Shelling	Captiva	Adventure	\$750	Lois	Goode
Breeze Bay Shelling	Captiva	Adventure	\$750	Naresh	Hubert
Piper-Heitman Wedding	Captiva	Family	\$550	Julia	Bouchart
Ames Ski Club	Breckenridge	Adventure	\$850	Tom	Camel
Golden Footsteps	Orlando	Site Seeing	\$550	Shirley	Walker
Golden Footsteps	Orlando	Site Seeing	\$550	Zohra	Vogue
Golden Footsteps	Orlando	Site Seeing	\$550	Kathryn	Dotey
Golden Footsteps	Orlando	Site Seeing	\$550	Jose	Hammer
Red Reef Scuba	Islamadora	Adventure	\$1,500	Jane	Taylor
Breeze Bay Shelling	Captiva	Adventure	\$750	Kori	Yode
American Heritage Tour	Philadelphia	Educational	\$1,200	Sharol	Olingback

**FIGURE B-4:** Final TourCustomerList datasheet

TourName	City	Category	Price	FName	LName
Breeze Bay Shelling	Captiva	Adventure	\$750	Lisa	Wilson
Ames Ski Club	Breckenridge	Adventure	\$850	Kristen	Collins
Breeze Bay Shelling	Captiva	Adventure	\$750	Kris	Goode
Breeze Bay Shelling	Captiva	Adventure	\$750	Lois	Goode
Breeze Bay Shelling	Captiva	Adventure	\$750	Naresh	Hubert
Piper-Heitman Wedding	Captiva	Family	\$550	Julia	Bouchart
Ames Ski Club	Breckenridge	Adventure	\$850	Tom	Camel
Golden Footsteps	Kissimmee	Site Seeing	\$550	Shirley	Walker
Golden Footsteps	Kissimmee	Site Seeing	\$550	Zohra	Vogue
Golden Footsteps	Kissimmee	Site Seeing	\$550	Kathryn	Dotey
Golden Footsteps	Kissimmee	Site Seeing	\$550	Jose	Hammer
Red Reef Scuba	Islamadora	Adventure	\$1,500	Jane	Taylor
Breeze Bay Shelling	Captiva	Adventure	\$750	Kori	Yode
American Heritage Tour	Philadelphia	Educational	\$1,200	Sharol	Olingback
American Heritage Tour	Philadelphia	Educational	\$1,200	Lois	Goode
American Heritage Tour	Philadelphia	Educational	\$1,200	Tim	Taylor
American Heritage Tour	Philadelphia	Educational	\$1,200	Frank	Houston
Yosemite National Park C	Sacramento	Service	\$1,100	Tom	Camel
American Heritage Tour	Philadelphia	Educational	\$1,200	Jane	Taylor
Yosemite National Park C	Sacramento	Service	\$1,100	Kristen	Collins
American Heritage Tour	Philadelphia	Educational	\$1,200	Kris	Goode
American Heritage Tour	Philadelphia	Educational	\$1,200	Ralph	Hopper
American Heritage Tour	Philadelphia	Educational	\$1,200	Nancy	Langguth
American Heritage Tour	Philadelphia	Educational	\$1,200	Brad	Langguth
American Heritage Tour	Philadelphia	Educational	\$1,200	Hannah	Edwards

### Hiding and unhiding fields in a datasheet

To hide a field in a datasheet, right-click the field name at the top of the datasheet and click the Hide Fields option on the shortcut menu. To unhide a field, right-click any field name, click Unhide

Fields, and check the hidden field's check box in the Unhide Columns dialog box.

### Freezing and unfreezing fields in a datasheet

In large datasheets, you may want to freeze certain fields so that they remain on the screen at all times. To freeze a field, right-click its

field name in the datasheet, and then click Freeze Fields. To unfreeze a field, right-click any field name and click Unfreeze All Fields.

**Learning Outcomes**

- Work in Query Design View
- Add criteria to a query

**STEPS****1. Double-click the ToursByState query in the Navigation Pane to review the datasheet**

The ToursByState query contains the StateName field from the States table and the TourName, TourStartDate, and Price fields from the Tours table. This query contains two ascending sort orders: StateName and TourName. All records in California, for example, are further sorted by the TourName value.

**QUICK TIP**

Drag the lower edge of the field list to view more fields.

**2. Click the View button  on the HOME tab to switch to Query Design View**

Query Design View displays the tables used in the query in the upper pane of the window. The link line shows that one record in the States table may be related to many records in the Tours table. The lower pane of the window, called the **query design grid** (or query grid for short), displays the field names, sort orders, and criteria used within the query.

**3. Click the first Criteria cell for the StateName field, then type Florida as shown in FIGURE B-5**

Criteria are limiting conditions you set in the query design grid. In this case, the condition limits the selected records to only those with "Florida" in the StateName field.

**4. Click the View button  in the Results group to switch to Datasheet View**

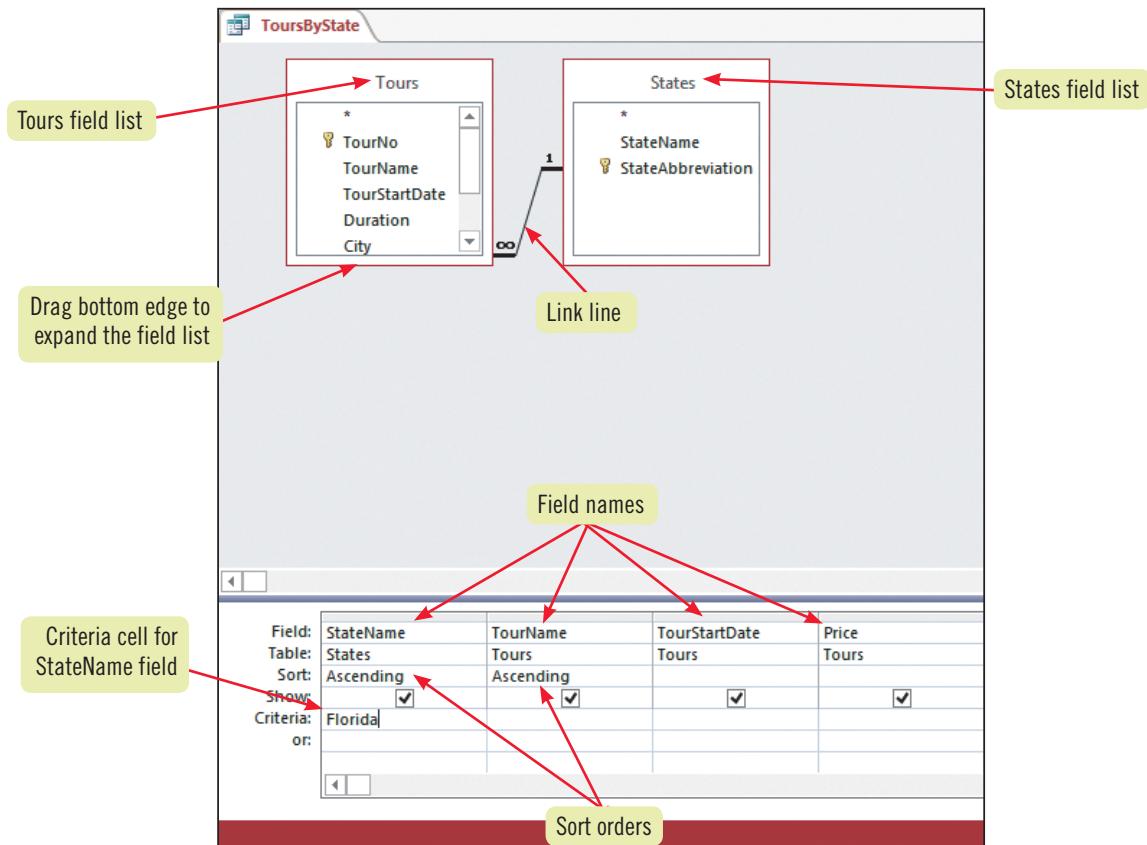
Now only nine records are selected, because only nine of the tours have "Florida" in the StateName field, as shown in FIGURE B-6. You want to save this query with a different name.

**5. Click the FILE tab, click Save As, click Save Object As, click the Save As button, type FloridaTours, then click OK**

In Access, the **Save As command** on the FILE tab allows you to save the entire database (and all objects it contains) or just the current object with a new name. Recall that Access saves *data* automatically as you move from record to record.

**6. Right-click the FloridaTours query tab, then click Close**

**FIGURE B-5:** ToursByState query in Design View



**FIGURE B-6:** ToursByState query with Florida criterion

TourName values are in ascending order

Only nine Florida records are selected

StateName	TourName	TourStartDate	Price
Florida	Breeze Bay Shelling	07/06/2014	\$750
Florida	Golden Footsteps	05/23/2014	\$550
Florida	Gulfside Birdwatchers	06/29/2014	\$700
Florida	High Adventurers	06/05/2014	\$575
Florida	Hummer Trail	05/30/2014	\$725
Florida	Patriot Debate Club	06/12/2014	\$605
Florida	Piper-Heitman Wedding	05/30/2014	\$550
Florida	Red Reef Scuba	07/06/2014	\$1,500
Florida	Tropical Sailboats	06/19/2014	\$655

### Adding or deleting a table in a query

You might want to add a table's field list to the upper pane of Query Design View to select fields from that table for the query. To add a new table to Query Design View, drag it from the Navigation Pane to Query Design View, or click the Show

Table button on the Design tab, then add the desired table(s). To delete an unneeded table from Query Design View, click its title bar, then press [Delete].

**Learning Outcomes**

- Apply sort orders to a query
- Find and replace data in a query
- Undo edits in a query

# Sort and Find Data

The Access sort and find features are handy tools that help you quickly organize and find data in a table or query datasheet. **TABLE B-1** describes the Sort and Find buttons on the HOME tab. Besides using these buttons, you can also click the list arrow on the field name in a datasheet, and then click a sorting option. **CASE** → Samantha asks you to provide a list of tours sorted by TourStartDate, and then by Price. You'll modify the ToursByCategory query to answer this query.

## STEPS

- Double-click the ToursByCategory query in the Navigation Pane to open its datasheet**

The ToursByCategory query currently sorts tours by Category, then by TourName. You'll add the Duration field to this query, then change the sort order for the records.

**QUICK TIP**

Drag a selected field selector right or left to move the column to a new position in the query grid.

- Click the View button  in the Views group to switch to Design View, then double-click the Duration field in the Tours field list**

When you double-click a field in a field list, Access inserts it in the next available column in the query grid. You can also drag a field from a field list to a specific column of the query grid. To select a field in the query grid, you click its field selector. The **field selector** is the thin gray bar above each field in the query grid. If you want to delete a field from a query, click its field selector, then press [Delete]. Deleting a field from a query does not delete it from the underlying table; the field is only deleted from the query's logical view.

Currently, the ToursByCategory query is sorted by Category and then by TourName. Access evaluates sort orders from left to right. You want to change the sort order so that the records sort first by TourStartDate then by Price.

- Click Ascending in the Category Sort cell, click the list arrow, click (not sorted), click Ascending in the TourName Sort cell, click the list arrow, click (not sorted), double-click the TourStartDate Sort cell to specify an Ascending sort, then double-click the Price Sort cell to specify an Ascending sort**

The records are now set to be sorted in ascending order, first by TourStartDate, then by the values in the Price field, as shown in **FIGURE B-7**. Because sort orders always work from left to right, you might need to rearrange the fields before applying a sort order that uses more than one field. To move a field in the query design grid, click its field selector, then drag it left or right.

- Click the View button  in the Results group**

The new datasheet shows the Duration field in the fifth column. The records are now sorted in ascending order by the TourStartDate field. If two records have the same TourStartDate, they are further sorted by Price. Your next task is to replace all occurrences of "Site Seeing" with "Cultural" in the Category field.

- Click the Find button on the HOME tab, type Site Seeing in the Find What box, click the Replace tab, click in the Replace With box, then type Cultural**

The Find and Replace dialog box is shown in **FIGURE B-8**.

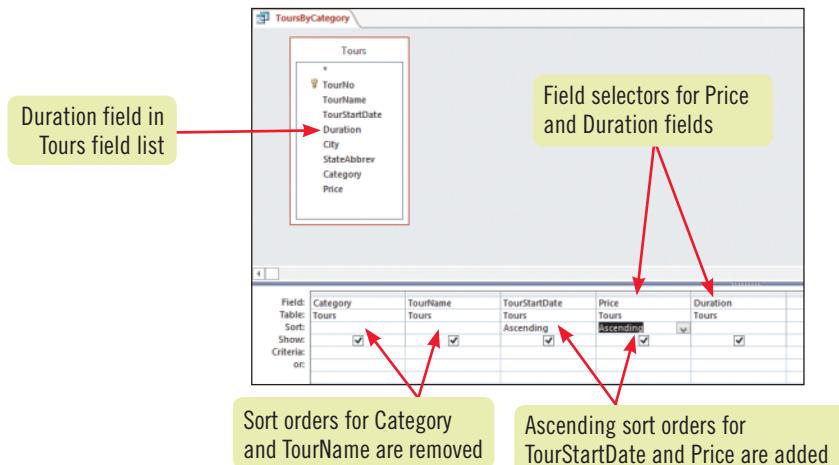
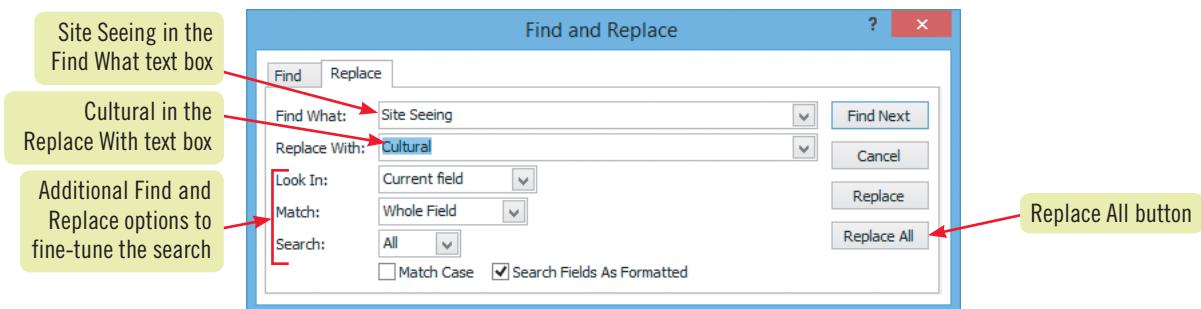
**TROUBLE**

If your find-and-replace effort did not work correctly, click the Undo button  and repeat Steps 5 and 6.

- Click the Replace All button in the Find and Replace dialog box, click Yes to continue, then click Cancel to close the Find and Replace dialog box**

Access replaced all occurrences of "Site Seeing" with "Cultural" in the Category field, as shown in **FIGURE B-9**.

- Right-click the ToursByCategory query tab, click Close, then click Yes to save changes**

**FIGURE B-7: Changing sort orders for the ToursByCategory query****FIGURE B-8: Find and Replace dialog box****FIGURE B-9: Final ToursByCategory datasheet with new sort orders**

Category	TourName	TourStartDate	Price	Duration
Cultural	Golden Footsteps	05/23/2014	\$550	4
Family	Piper-Heitman Wedding	05/30/2014	\$550	7
Cultural	Hummer Trail	05/30/2014	\$725	14
Adventure	High Adventurers	06/05/2014	\$575	7
Cultural	Patriot Debate Club	06/12/2014	\$605	7
Adventure	Tropical Sailboats	06/19/2014	\$655	14
Adventure	Eagle Hiking Club	06/19/2014	\$695	7
Adventure	Paradise Water Club	06/26/2014	\$595	7
Adventure	Perfect Waves	06/27/2014	\$500	5
Service	Outrigger Cleanup	06/29/2014	\$395	7
Adventure	Team Discovery	06/29/2014	\$550	5
Adventure	Gulfside Birdwatchers	06/29/2014	\$700	7

**TABLE B-1: Sort and Find buttons**

name	button	purpose
Ascending		Sorts records based on the selected field in ascending order (0 to 9, A to Z)
Descending		Sorts records based on the selected field in descending order (Z to A, 9 to 0)
Remove Sort		Removes the current sort order
Find		Opens the Find and Replace dialog box, which allows you to find data in a single field or in the entire datasheet
Replace		Opens the Find and Replace dialog box, which allows you to find and replace data
Go To		Helps you navigate to the first, previous, next, last, or new record
Select		Helps you select a single record or all records in a datasheet

**Learning Outcomes**

- Apply and remove filters in a query
- Use wildcards in criteria

**STEPS****QUICK TIP**

You can also apply a sort or filter by clicking the Sort and Filter arrow to the right of the field name and choosing the sort order or filter values you want.

1. Double-click the **Tours table** to open it, click any occurrence of **Adventure** in the **Category** field, click the **Selection button** in the **Sort & Filter group** on the **HOME tab**, then click **Equals "Adventure"**

Eighteen records are selected, some of which are shown in **FIGURE B-10**. A filter icon appears to the right of the Category field. Filtering by the selected field value, called **Filter By Selection**, is a fast and easy way to filter the records for an exact match. To filter for comparative data (for example, where **TourStartDate** is *equal to* or *greater than* 7/1/2014), you must use the **Filter By Form** feature. Filter buttons are summarized in **TABLE B-3**.

2. Click the **Advanced button** in the **Sort & Filter group**, then click **Filter By Form**

The Filter by Form window opens. The previous Filter By Selection criterion, “Adventure” in the Category field, is still in the grid. Access distinguishes between text and numeric entries by placing “quotation marks” around text criteria.

3. Click the **TourStartDate cell**, then type **7/\*/2014** as shown in **FIGURE B-11**

Filter By Form also allows you to apply two or more criteria at the same time. An asterisk (\*) in the day position of the date criterion works as a wildcard, selecting any date in the month of July (the 7th month) in the year 2014.

4. Click the **Toggle Filter button** in the **Sort & Filter group**

The datasheet selects two records that match both filter criteria, as shown in **FIGURE B-12**. Note that filter icons appear next to the **TourStartDate** and **Category** field names as both fields are involved in the filter.

5. Close the **Tours datasheet**, then click **Yes** when prompted to save the changes

Saving changes to the datasheet saves the last sort order and column width changes. Filters are not saved.

**QUICK TIP**

To clear previous criteria, click the Advanced button, then click Clear All Filters.

**QUICK TIP**

Be sure to remove existing filters before applying a new filter, or the new filter will apply to the current subset of records instead of the entire datasheet.

**Using wildcard characters**

To search for a pattern, you can use a **wildcard** character to represent any character in the condition entry. Use a question mark (?) to search for any single character and an asterisk (\*) to search for any number of characters. Wildcard characters are

often used with the **Like** operator. For example, the criterion Like “12/\*/13” would find all dates in December of 2013, and the criterion Like “F\*” would find all entries that start with the letter F.

**FIGURE B-10:** Filtering the Tours table

The screenshot shows the Microsoft Access ribbon with the 'TABLE TOOLS' tab selected. In the 'FIELDS' section of the ribbon, the 'Filter' button is highlighted with a red arrow. Below the ribbon, the 'Tours' table is displayed in a datasheet view. A filter icon is shown over the 'Category' column header. The 'Category' column contains the value 'Adventure' for all visible rows. A callout box indicates that the 'Toggle Filter' button is selected, stating 'Toggle Filter button is selected, indicating the records are filtered'. Another callout box points to the 'Category' field with the text 'Adventure in the Category field'.

**FIGURE B-11:** Filtering By Form criteria

The screenshot shows a Microsoft Access form titled 'Tours: Filter by Form'. It has several fields: 'TourNo', 'TourName', 'TourStartDate', 'Duration', 'City', 'StateAb', 'Category', and 'Price'. The 'TourStartDate' field contains the value '7/\*/2014' with a dropdown arrow. The 'Category' field contains the value '"Adventure"' with a dropdown arrow. Callout boxes point to these fields with the labels 'TourStartDate criterion' and 'Category criterion' respectively.

**FIGURE B-12:** Results of filtering by form

The screenshot shows the Microsoft Access 'Tours' table with the following data:

TourNo	TourName	TourStartDate	Duration	City	StateAb	Category	Price
1	Breeze Bay Shelling	07/06/2014		3 Captiva	FL	Adventure	\$750
2	Red Reef Scuba	07/06/2014		3 Islamadora	FL	Adventure	\$1,500
*	(New)						

Callout boxes point to the 'TourStartDate' column with the text 'TourStartDate values are in July 2014', to the filter icons with the text 'Filter icons', and to the 'Category' column with the text 'Category is equal to Adventure'.

**TABLE B-2:** Filters vs. queries

characteristics	filters	queries
Are saved as an object in the database		•
Can be used to select a subset of records in a datasheet	•	•
Can be used to select a subset of fields in a datasheet		•
Resulting datasheet used to enter and edit data	•	•
Resulting datasheet used to sort, filter, and find records	•	•
Commonly used as the source of data for a form or report		•
Can calculate sums, averages, counts, and other types of summary statistics across records		•
Can be used to create calculated fields	•	

**TABLE B-3:** Filter buttons

name	button	purpose
Filter		Provides a list of values in the selected field that can be used to customize a filter
Selection		Filters records that equal, do not equal, or are otherwise compared with the current value
Advanced		Provides advanced filter features such as Filter By Form, Save As Query, and Clear All Filters
Toggle Filter		Applies or removes the current filter

**Learning Outcomes**

- Enter AND criteria in a query
- Define criteria syntax
- Use comparison operators with criteria

# Apply AND Criteria

You can limit the number of records that appear on a query datasheet by entering criteria in Query Design View. Criteria are tests, or limiting conditions, for which the record must be true to be selected for the query datasheet. To create **AND criteria**, which means that *all* criteria must be true to select the record, enter two or more criteria on the same Criteria row of the query design grid. **CASE** → Samantha Hooper asks you to provide a list of all Adventure tours in the state of Florida with a duration of 7 days or less. Use Query Design View to create the query with AND criteria to meet her request.

## STEPS

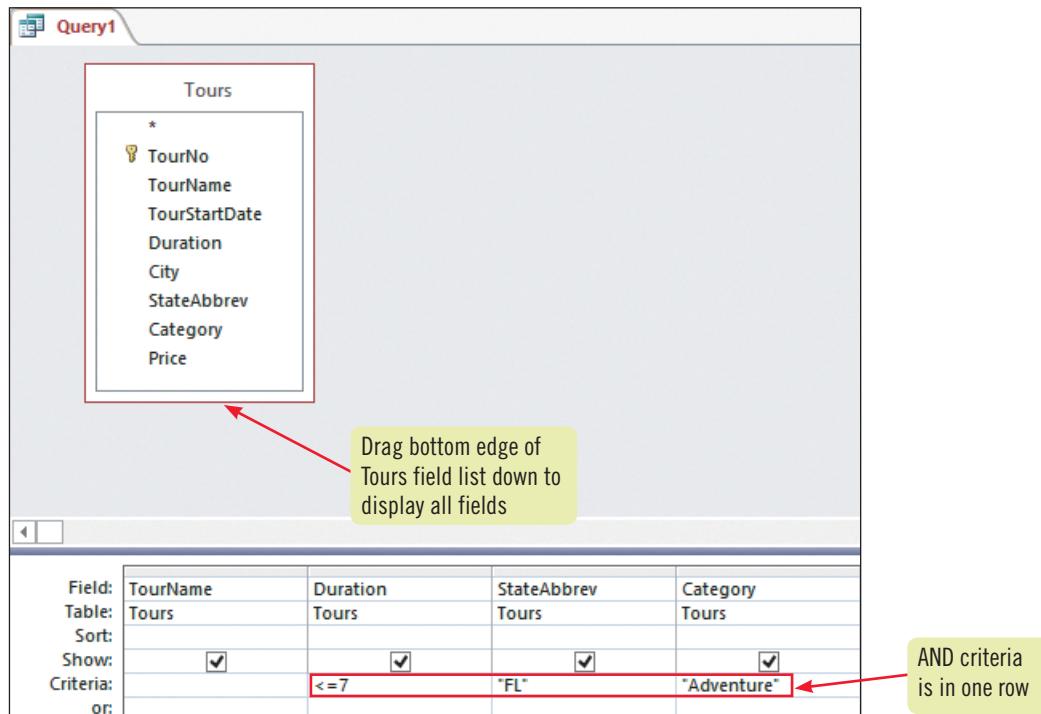
1. Click the **CREATE tab** on the Ribbon, click the **Query Design button**, double-click **Tours**, then click **Close** in the Show Table dialog box  
You want four fields from the Tours table in this query.
2. Drag the **bottom edge of the Tours field list** down to display all of the fields, double-click **TourName**, double-click **Duration**, double-click **StateAbbrev**, then double-click **Category** to add these fields to the query grid  
First add criteria to select only those records in Florida. Because you are using the StateAbbrev field, you need to use the two-letter state abbreviation for Florida, FL, as the Criteria entry.
3. Click the **first Criteria cell for the StateAbbrev field**, type **FL**, then click the **View button**  to display the results  
Querying for only those tours in the state of Florida selects nine records. Next, you add criteria to select only the tours in Florida in the Adventure category.
4. Click the **View button** , click the **first Criteria cell for the Category field**, type **Adventure**, then click the **View button**  in the Results group  
Criteria added to the same line of the query design grid are AND criteria. When entered on the same line, each criterion must be true for the record to appear in the resulting datasheet. Querying for both FL and Adventure tours narrows the selection to five records. Every time you add AND criteria, you *narrow* the number of records that are selected because the record must be true for *all* criteria.
5. Click the **View button** , click the **first Criteria cell for the Duration field**, then type **<=7**, as shown in **FIGURE B-13**  
Access assists you with **criteria syntax**, rules that specify how to enter criteria. Access automatically adds “quotation marks” around text criteria in Short Text and Long Text fields (“FL” and “Adventure”) and pound signs (#) around date criteria in Date/Time fields. The criteria in Number, Currency, and Yes/No fields are not surrounded by any characters. See **TABLE B-4** for more information about comparison operators such as > (greater than).

### TROUBLE

If your datasheet doesn't match **FIGURE B-14**, return to Query Design View and compare your criteria with that of **FIGURE B-13**.

6. Click the **View button**   
The third AND criterion further narrows the number of records selected to four, as shown in **FIGURE B-14**.
7. Click the **Save button**  on the Quick Access toolbar, type **AdventureFL** as the query name, click **OK**, then close the query  
The query is saved with the new name, AdventureFL, as a new object in the QuestTravel-B database. Criteria entered in Query Design View are permanently saved with the query (as compared with filters in the previous lesson, which are temporary and not saved with the object).

**FIGURE B-13:** Query Design View with AND criteria



**FIGURE B-14:** Final datasheet of AdventureFL query

TourName	Duration	State	Category
Breeze Bay Shelling	3	FL	Adventure
Red Reef Scuba	3	FL	Adventure
High Adventurers	7	FL	Adventure
Gulfside Birdwatchers	7	FL	Adventure
*			

Records meet all three criteria:  
Duration <=7  
State = "FL"  
Category = "Adventure"

**TABLE B-4:** Comparison operators

operator	description	expression	meaning
>	Greater than	>500	Numbers greater than 500
>=	Greater than or equal to	>=500	Numbers greater than or equal to 500
<	Less than	<"Braveheart"	Names from A to Braveheart, but not Braveheart
<=	Less than or equal to	<="Bridgewater"	Names from A through Bridgewater, inclusive
<>	Not equal to	<>"Fontanelle"	Any name except for Fontanelle

### Searching for blank fields

Is Null and Is Not Null are two other types of common criteria. The **Is Null** criterion finds all records where no entry has been made in the field. **Is Not Null** finds all records where there is any

entry in the field, even if the entry is 0. Primary key fields cannot have a null entry.

**Learning Outcomes**

- Enter OR criteria in a query
- Rename a query

**STEPS**

1. Right-click the **AdventureFL** query in the Navigation Pane, click **Copy**, right-click a **blank spot** in the Navigation Pane, click **Paste**, type **AdventureCulturalFL** in the Paste As dialog box, then click **OK**

By copying the AdventureFL query before starting your modifications, you avoid changing the AdventureFL query by mistake.

2. Right-click the **AdventureCulturalFL** query in the Navigation Pane, click **Design View**, click the **second Criteria cell in the Category field**, type **Cultural**, then click the **View button**  to display the query datasheet

The query selected 11 records including all of the tours with Cultural in the Category field. Note that some of the Duration values are greater than 7 and some of the StateAbbrev values are not FL. Because each row of the query grid is evaluated separately, all Cultural tours are selected regardless of criteria in any other row. In other words, the criteria in one row have no effect on the criteria of other rows. To make sure that the Cultural tours are also in Florida and have a duration of less than or equal to 7 days, you need to modify the second row of the query grid (the “or” row) to specify that criteria.

**QUICK TIP**

The Datasheet, Design, and other view buttons are also located in the lower-right corner of the Access window.

3. Click the **View button** , click the **second Criteria cell in the Duration field**, type **<=7**, click the **second Criteria cell in the StateAbbrev field**, type **FL**, then click in any other cell of the grid

Query Design View should look like **FIGURE B-15**.

4. Click the **View button** 

Six records are selected that meet all three criteria as entered in row one or row two of the query grid, as shown in **FIGURE B-16**.

5. Right-click the **AdventureCulturalFL** query tab, click **Close**, then click **Yes** to save and close the query datasheet

**FIGURE B-15:** Query Design View with OR criteria

The screenshot shows the Microsoft Access Query Design View. At the top, there's a table named "Tours" with fields: TourNo, TourName, TourStartDate, Duration, City, StateAbbrev, Category, and Price. Below the table is a query grid. The first row of the grid is labeled "Criteria: or:" and contains four columns: TourName, Duration, StateAbbrev, and Category. The second row has criteria: Duration <=7, StateAbbrev = "FL", and Category = "Adventure". The third row has criteria: Duration <=7, StateAbbrev = "FL", and Category = "Cultural". A callout box with a red arrow points to the "Criteria: or:" row, containing the text "OR criteria is on multiple rows".

Field:	TourName	Duration	StateAbbrev	Category
Table:	Tours	Tours	Tours	Tours
Sort:				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria: or:	<=7	"FL"	"Adventure"	
	<=7	"FL"	"Cultural"	

**FIGURE B-16:** Final datasheet of AdventureCulturalFL query

The screenshot shows the final datasheet of the AdventureCulturalFL query. It displays five rows of tour information: Breeze Bay Shelling, Red Reef Scuba, Golden Footsteps, High Adventurers, and Gulfside Birdwatchers. The "TourName" column is highlighted in yellow. Red arrows point from the "TourName" column to a callout box containing the query's criteria. The callout box states: "Records meet all three criteria: Duration <=7, State = "FL", Category = "Adventure" OR Duration <=7, State = "FL", Category = "Cultural"".

	TourName	Duration	State	Category
*	Breeze Bay Shelling	3	FL	Adventure
	Red Reef Scuba	3	FL	Adventure
	Golden Footsteps	4	FL	Cultural
	High Adventurers	7	FL	Adventure
	Patriot Debate Club	7	FL	Cultural
	Gulfside Birdwatchers	7	FL	Adventure

**Learning Outcomes**

- Zoom in print preview
- Format a datasheet
- Change page orientation

# Format a Datasheet

A report is the primary Access tool to create a professional printout, but you can print a datasheet as well. A datasheet allows you to apply some basic formatting modifications such as changing the font size, font face, colors, and gridlines. **CASE** *Samantha Hooper asks you to print a list of customers. You decide to format the Customers table datasheet before printing it for her.*

## STEPS

1. In the Navigation Pane, double-click the **Customers table** to open it in Datasheet View  
Before applying new formatting enhancements, you preview the default printout.

2. Click the **FILE tab**, click **Print**, click **Print Preview**, then click the **header** of the printout to zoom in

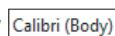
The preview window displays the layout of the printout, as shown in **FIGURE B-17**. By default, the printout of a datasheet contains the object name and current date in the header. The page number is in the footer.

3. Click the **Next Page button**  in the navigation bar to move to the next page of the printout

The last two fields print on the second page because the first is not wide enough to accommodate them. You decide to switch the report to landscape orientation so that all of the fields print on one page, and then increase the size of the font before printing to make the text easier to read.

4. Click the **Landscape button** on the **PRINT PREVIEW** tab to switch the report to landscape orientation, then click the **Close Print Preview** button

You return to Datasheet View where you can make font face, font size, font color, gridline color, and background color choices.

5. Click the **Font list arrow**  in the Text Formatting group, click **Times New Roman**, click the **Font Size list arrow** , then click **12**

With the larger font size applied, you need to resize some columns to accommodate the widest entries.

6. Use the  pointer to double-click the **field separator** between the Street and City field names, then double-click the **field separator** between the Phone and FirstContact field names

Double-clicking the field separators widens the columns as needed to display every entry in those fields, as shown in **FIGURE B-18**.

**QUICK TIP**

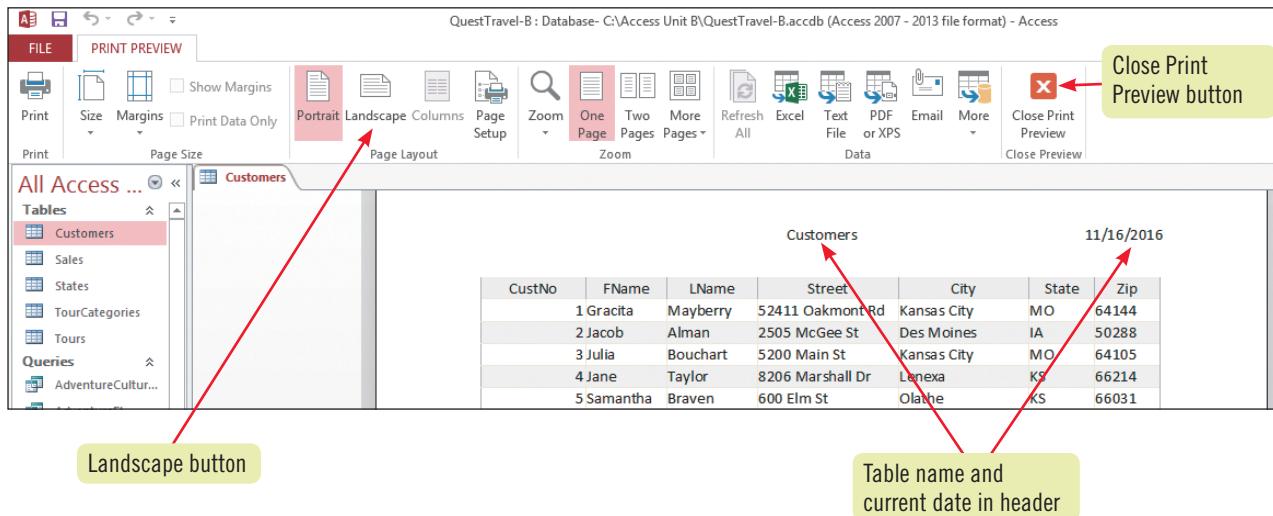
If you need a print-out of this datasheet, click the Print button on the PRINT PREVIEW tab, then click OK.

7. Click the **FILE tab**, click **Print**, click **Print Preview**, then click the preview to zoom in and out to review the information

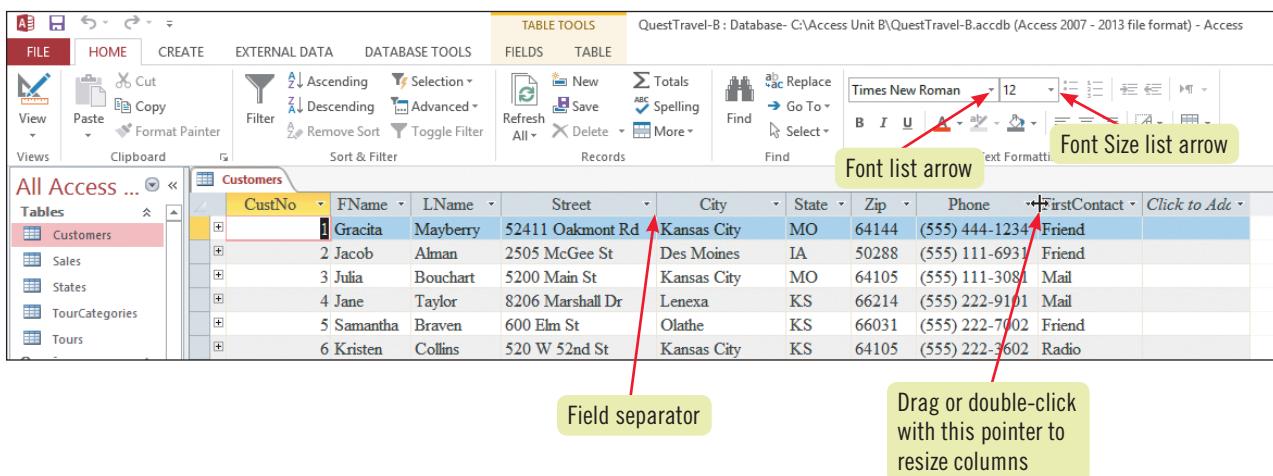
All of the fields now fit across a page in landscape orientation. The preview of the printout is still two pages, but with the larger font size, it is easier to read.

8. Right-click the **Customers table tab**, click **Close**, click **Yes** when prompted to save changes, then click the **Close button** on the title bar to close the QuestTravel-B.accdb database and Access 2013

**FIGURE B-17:** Preview of Customers datasheet



**FIGURE B-18:** Formatting the Customers datasheet



# Practice

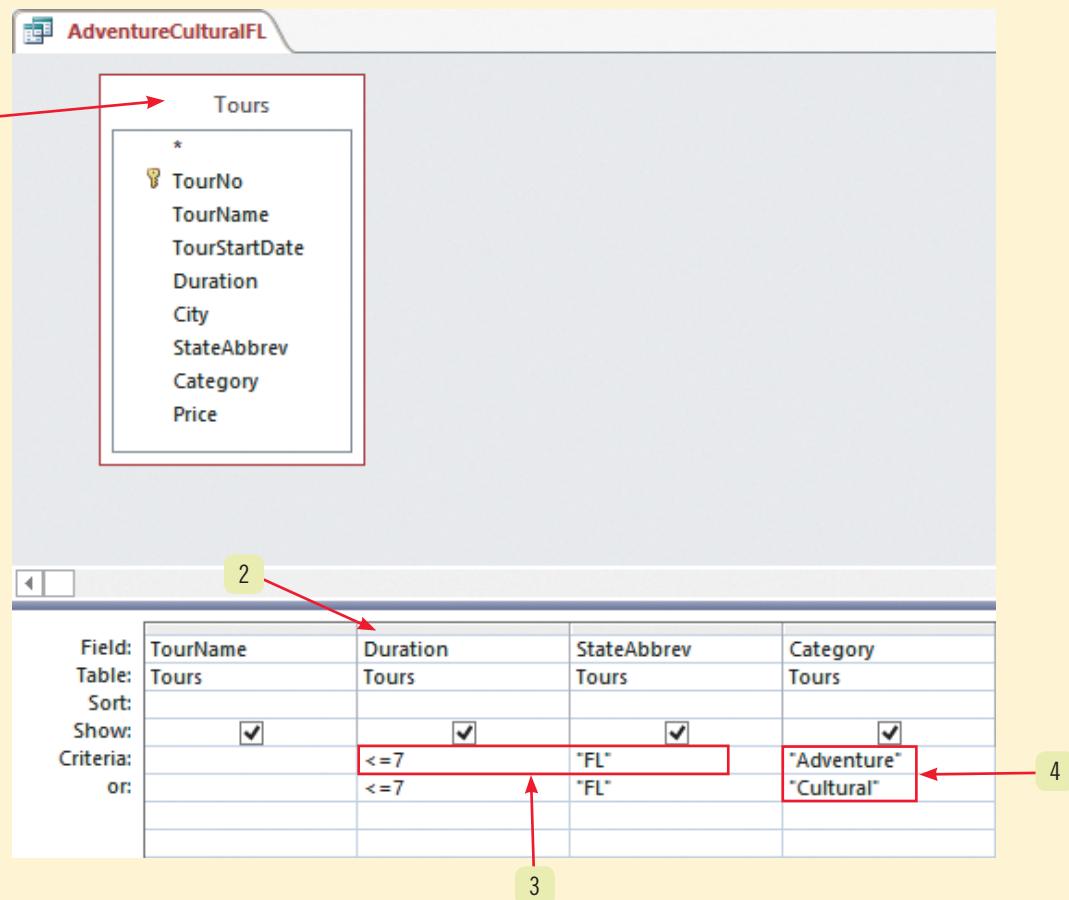
## Concepts Review



Put your skills into practice with **SAM Projects!** SAM Projects for this unit can be found online. If you have a SAM account, go to [www.cengage.com/sam2013](http://www.cengage.com/sam2013) to download the most recent Project Instruction and Start Files.

**Label each element of the Access window shown in FIGURE B-19.**

**FIGURE B-19**



**Match each term with the statement that best describes it.**

- |                               |  |
|-------------------------------|--|
| <b>5. Query grid</b>          | a. Putting records in ascending or descending order based on the values of a field         |
| <b>6. Field selector</b>      | b. Limiting conditions used to restrict the number of records that are selected in a query |
| <b>7. Filter</b>              | c. Creates a temporary subset of records   |
| <b>8. Filter By Selection</b> | d. Small windows that display field names  |
| <b>9. Field lists</b>         | e. Rules that determine how criteria are entered   |
| <b>10. Sorting</b>            | f. Used to search for a pattern of characters  |
| <b>11. Join line</b>          | g. Criterion that finds all records where no entry has been made in the field              |
| <b>12. Is Null</b>            | h. The lower pane in Query Design View   |
| <b>13. Criteria</b>           | i. Identifies which fields are used to establish a relationship between two tables         |
| <b>14. Syntax</b>             | j. A fast and easy way to filter the records for an exact match                            |
| <b>15. Wildcard</b>           | k. The thin gray bar above each field in the query grid                                    |

**Select the best answer from the list of choices.**

**16. AND criteria:**

- a. Determine sort orders.
- b. Must all be true for the record to be selected.
- c. Determine fields selected for a query.
- d. Help set link lines between tables in a query.

**17. SQL stands for which of the following?**

- a. Structured Query Language
- b. Standard Query Language
- c. Special Query Listing
- d. Simple Query Listing

**18. A query is sometimes called a logical view of data because:**

- a. You can create queries with the Logical Query Wizard.
- b. Queries contain logical criteria.
- c. Query naming conventions are logical.
- d. Queries do not store data—they only display a view of data.

**19. Which of the following describes OR criteria?**

- a. Selecting a subset of fields and/or records to view as a datasheet from one or more tables
- b. Using two or more rows of the query grid to select only those records that meet given criteria
- c. Reorganizing the records in either ascending or descending order based on the contents of one or more fields
- d. Using multiple fields in the query design grid

**20. Which of the following is *not* true about a query?**

- a. A query is the same thing as a filter.
- b. A query can select fields from one or more tables in a relational database.
- c. A query can be created using different tools.
- d. An existing query can be modified in Query Design View.

# Skills Review

## 1. Use the Query Wizard.

- a. Open the Recycle-B.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Create a new query using the Simple Query Wizard. Select the CenterName field from the Centers table, the DepositDate and Weight fields from the Deposits table, and the ClubName field from the Clubs table. Select Detail, and enter **CenterDeposits** as the name of the query.
- c. Open the query in Datasheet View, then change any record with the Barker Trash value to a center name that includes *your* last name.

## 2. Work with data in a query.

- a. Delete the first record (Hugo Trash Can with a DepositDate value of 2/4/2014).
- b. Change any occurrence of Lions of Fontanelle in the ClubName field to **Lions of Bridgewater**.
- c. Click any value in the DepositDate field, then click the Descending button on the HOME tab to sort the records in descending order on the DepositDate field.
- d. Use the Calendar Picker to choose the date of **12/16/2016** for the first record.
- e. Save and close the CenterDeposits query.

## 3. Use Query Design View.

- a. Click the CREATE tab, click the Query Design button, double-click Clubs, double-click Deposits, and then click Close to add the Clubs and Deposits tables to Query Design View.
- b. Drag the bottom edge of both field lists down to display all of the field names in both tables.
- c. Add the following fields from the Clubs table to the query design grid in the following order: FName, LName, ClubName. Add the following fields from the Deposits table in the following order: DepositDate, Weight. View the results in Datasheet View observing the number of records that are selected.
- d. In Design View, enter criteria to display only those records with a Weight value of **greater than or equal to 100**, then observe the number of records that are selected in Datasheet View.
- e. Save the query with the name **HeavyDeposits**.

## 4. Sort and find data.

- a. In Query Design View of the HeavyDeposits query, choose an ascending sort order for the ClubName field and a descending sort order for the Weight field.
- b. Display the query in Datasheet View noting how the records have been resorted.
- c. In the ClubName field, change any occurrence of Jaycees to **Dallas Jaycees**.
- d. In the FName field, change any occurrence of Tara to *your* initials.

## 5. Filter data.

- a. Filter the HeavyDeposits datasheet for only those records where the ClubName equals **Dallas Jaycees**.
- b. Apply an advanced Filter By Form and use the  $\geq$  operator to further narrow the records so that only the deposits with a DepositDate value on or after 1/1/2015 are selected.
- c. Apply the filter to see the datasheet and if requested by your instructor, print the filtered HeavyDeposits datasheet.
- d. Save and close the HeavyDeposits query. Reopen the HeavyDeposits query to confirm that filters are temporary (not saved), and then close the HeavyDeposits query again.

## Skills Review (continued)

### 6. Apply AND criteria.

- a. Right-click the HeavyDeposits query, copy it, and then paste it as **Heavy2014Deposits**.
- b. Open the Heavy2014Deposits query in Query Design View.
- c. Modify the criteria to select all of the records with a DepositDate in **2014** and a Weight value **greater than or equal to 100**.
- d. If requested by your instructor, print the Heavy2014Deposits datasheet, then save and close it.

### 7. Apply OR criteria.

- a. Right-click the HeavyDeposits query, copy it, then paste it as **HeavyDeposits2Clubs**.
- b. Open the HeavyDeposits2Clubs query in Design View, then add criteria to select the records with a ClubName of **Ice Kings** and a Weight value **greater than or equal to 100**.
- c. Add criteria to also include the records with a ClubName of **Junior League** with a Weight value **greater than or equal to 100**. **FIGURE B-20** shows the results.
- d. If requested by your instructor, print the HeavyDeposits2Clubs datasheet, then save and close it.

### 8. Format a datasheet.

- a. In the Clubs table datasheet, apply an Arial Narrow font and a 14-point font size.
- b. Resize all columns so that all data and field names are visible.
- c. Display the Clubs datasheet in Print Preview, switch the orientation to landscape, click the Margins button in the Page Size group, then click Narrow to fit the printout on a single sheet of paper.
- d. If requested by your instructor, print the Clubs datasheet.
- e. Save and close the Clubs table, then close Access 2013.

**FIGURE B-20**

FName	LName	ClubName	DepositDate	Weight
SI	Jackson	Ice Kings	2/13/2014	200
SI	Jackson	Ice Kings	2/18/2015	185
SI	Jackson	Ice Kings	2/13/2015	185
SI	Jackson	Ice Kings	3/7/2015	145
SI	Jackson	Ice Kings	4/19/2015	115
SI	Jackson	Ice Kings	5/1/2015	105
SI	Jackson	Ice Kings	2/22/2016	100
SI	Jackson	Ice Kings	1/30/2015	100
SI	Jackson	Ice Kings	2/26/2014	100
Lottie	Moon	Junior League	9/24/2015	200
Lottie	Moon	Junior League	3/2/2015	150
Lottie	Moon	Junior League	2/8/2015	150
Lottie	Moon	Junior League	3/4/2014	150
Lottie	Moon	Junior League	3/1/2014	150
Lottie	Moon	Junior League	2/8/2014	150

## Independent Challenge 1

You have built an Access database to track membership in a community service club. The database tracks member names and addresses as well as their community service hours.

- a. Open the Membership-B.accdb database from the location where you store your Data Files, enable content if prompted, then open the Activities, Members, and Zips tables to review their datasheets.
- b. In the Zips table, click the expand button to the left of the 64131, Overland Park, KS, record to display the two members linked to that zip code. Click the expand button to the left of the Gabriel Hammer record to display the three activity records linked to Gabriel.
- c. Close all three datasheets, click the DATABASE TOOLS tab, then click the Relationships button. The Relationships window also shows you that one record in the Zips table is related to many records in the Members table through the common ZipCode field, and that one record in the Members table is related to many records in the Activities table through the common MemberNo field.
- d. Click the Relationship Report button, then if requested by your instructor, print the Relationship report. Close and save the report with the default name **Relationships for Membership-B**. Close the Relationships window.
- e. Using Query Design View, build a query with the following fields: FirstName and LastName from the Members table and ActivityDate and HoursWorked from the Activities table.
- f. View the datasheet, observe the number of records selected, then return to Query Design View.
- g. Add criteria to select only those records where the ActivityDate is in March of 2014.
- h. In Query Design View, apply an ascending sort order to the LastName and ActivityDate fields, then view the datasheet.
- i. Change the name Quentin Garden to *your* name, widen all columns so that all data and field names are visible, and save the query with the name **March2014**, as shown in **FIGURE B-21**.
- j. If requested by your instructor, print the March2014 datasheet, then close the March2014 query and close Access 2013.

**FIGURE B-21**

FirstName	LastName	ActivityDate	HoursWorked
Bart	Bouchart	3/29/2014	4
Golga	Collins	3/31/2014	8
Martha	Duman	3/27/2014	4
Allie	Eahlie	3/29/2014	4
Jana	Eckert	3/29/2014	5
Student First	Student Last	3/29/2014	4
Student First	Student Last	3/30/2014	8
Lorraine	Goode	3/29/2014	5
Gabriel	Hammer	3/29/2014	5
Jeremiah	Hopper	3/27/2014	4
Helen	Hubert	3/29/2014	5
Heidi	Kalvert	3/29/2014	4
Harvey	Mackintosh	3/30/2014	4
Jon	Maxim	3/30/2014	4
Micah	Mayberry	3/29/2014	4
Patch	Mullins	3/30/2014	8
Patch	Mullins	3/31/2014	8
Young	Nelson	3/30/2014	10
Mallory	Olson	3/31/2014	8
Su	Vogue	3/30/2014	8
Sherry	Walker	3/29/2014	4
Taney	Wilson	3/30/2014	8
*			

## Independent Challenge 2

You work for a nonprofit agency that tracks the voting patterns of Congress. You have developed an Access database with contact information for members of the House of Representatives. The director of the agency has asked you to create several state lists of representatives. You will use queries to extract this information.

- a. Open the Congress-B.accdb database from the location where you store your Data Files, then enable content if prompted.
- b. Open the Representatives and the States tables. Notice that one state is related to many representatives as evidenced by the expand buttons to the left of the records in the States tables.
- c. Close both datasheets, then using Query Design View, create a query with the StateAbbrev, StateName, and Capital fields from the States table (in that order) as well as the LName field from the Representatives table.
- d. Sort the records in ascending order on the StateName field, then in ascending order on the LName field.
- e. Add criteria to select the representatives from Arizona or New Mexico. Use the StateAbbrev field to enter your criteria, using the two-character state abbreviations of **AZ** and **NM**.
- f. Save the query with the name **ArizonaAndNewMexico** as shown in **FIGURE B-22**, view the results, then change the last name of Upton in the last record to *your* last name. Resize the columns as needed to view all the data and field names.
- g. Print the ArizonaAndNewMexico datasheet if requested by your instructor, then close it and exit Access 2013.

**FIGURE B-22**

StateAbbrev	StateName	Capital	LName
AZ	Arizona	Phoenix	Christian
AZ	Arizona	Phoenix	Drake
AZ	Arizona	Phoenix	Gohmert
AZ	Arizona	Phoenix	Gonzalez
AZ	Arizona	Phoenix	Matheson
AZ	Arizona	Phoenix	McCaul
AZ	Arizona	Phoenix	Sanders
AZ	Arizona	Phoenix	Wolf
NM	New Mexico	Santa Fe	Miller
NM	New Mexico	Santa Fe	Student Last Name
NM	New Mexico	Santa Fe	Stupak
*			

## Independent Challenge 3

You have built an Access database to track the veterinarians and clinics in your area.

- a. Open the Vet-B.accdb database from the location where you store your Data Files, then enable content if prompted.
- b. Open the Vets table and then the Clinics table to review the data in both datasheets.
- c. Click the expand button next to the Veterinary Specialists record in the Clinics table, then add *your* name as a new record to the Vets subdatasheet.
- d. Close both datasheets.
- e. Using the Simple Query Wizard, select the VetLast and VetFirst fields from the Vets table, and select the ClinicName and Phone fields from the Clinics table. Title the query **ClinicListing**, then view the datasheet.
- f. Update any occurrence of Leawood Animal Clinic in the ClinicName field by changing Leawood to **Emergency** so the ClinicName is **Emergency Animal Clinic**.
- g. In Query Design View, add criteria to select only **Emergency Animal Clinic** or **Veterinary Specialists** in the ClinicName field, then view the datasheet.
- h. In Query Design View, move the ClinicName field to the first column, then add an ascending sort order on the ClinicName and VetLast fields.
- i. Display the ClinicListing query in Datasheet View, resize the fields as shown in **FIGURE B-23**, then print the datasheet if requested by your instructor.
- j. Save and close the ClinicListing datasheet, then exit Access 2013.

**FIGURE B-23**

ClinicName	VetLast	VetFirst	Phone
Emergency Animal Clinic	Ridwell	Kirk	(555) 555-1311
Emergency Animal Clinic	Rosenheim	Howard	(555) 555-1311
Emergency Animal Clinic	Salamander	Stephen	(555) 555-1311
Veterinary Specialists	Garver	Mark	(555) 555-4000
Veterinary Specialists	Major	Mark	(555) 555-4000
Veterinary Specialists	Manheim	Thomas	(555) 555-4000
Veterinary Specialists	Stewart	Frank	(555) 555-4000
Veterinary Specialists	Student Last	Student First	(555) 555-4000
*			

## Independent Challenge 4: Explore

An Access database is an excellent tool to help record and track job opportunities. For this exercise, you'll create a database from scratch that you can use to enter, edit, and query data in pursuit of a new job or career.

- a. Create a new desktop database named **Jobs.accdb**.
- b. Create a table named **Positions** with the following field names, data types, and descriptions:

Field name	Data type	Description
PositionID	AutoNumber	Primary key field
Title	Short Text	Title of position such as Accountant, Assistant Court Clerk, or Web Developer
CareerArea	Short Text	Area of the career field such as Accounting, Government, or Information Systems
AnnualSalary	Currency	Annual salary
Desirability	Number	Desirability rating of 1 = low to 5 = high to show how desirable the position is to you
EmployerID	Number	Foreign key field to the Employers table

- c. Create a table named **Employers** with the following field names, data types, and descriptions:

Field name	Data type	Description
EmployerID	AutoNumber	Primary key field
CompanyName	Short Text	Company name of the employer
EmpStreet	Short Text	Employer's street address
EmpCity	Short Text	Employer's city
EmpState	Short Text	Employer's state
EmpZip	Short Text	Employer's zip code
EmpPhone	Short Text	Employer's phone, such as 913-555-8888

- d. Be sure to set EmployerID as the primary key field in the Employers table and the PositionID as the primary key field in the Positions table.
- e. Link the Employers and Positions tables together in a one-to-many relationship using the common EmployerID field. One employer record will be linked to many position records. Be sure to enforce referential integrity.
- f. Using any valid source of potential employer data, enter five records into the Employers table.
- g. Using any valid source of job information, enter five records into the Positions table by using the subdatasheets from within the Employers datasheet.  
Because one employer may have many positions, all five of your Positions records may be linked to the same employer, you may have one position record per employer, or any other combination.
- h. Build a query that selects CompanyName from the Employers table, and the Title, CareerArea, AnnualSalary, and Desirability fields from the Positions table. Sort the records in descending order based on Desirability. Save the query as **JobList**, and print it if requested by your instructor.
- i. Close the JobList datasheet, then exit Access 2013.

## Visual Workshop

Open the Baseball-B.accdb database from the location where you store your Data Files, and enable content if prompted. Create a query based on the Players and Teams tables, as shown in **FIGURE B-24**. Add criteria to select only those records where the PlayerPosition field values are equal to 1 or 2 (representing pitchers and catchers). In Query Design View, set an ascending sort order on the TeamName and PlayerPosition fields. In the results, change the name of Roy Campanella to *your* name. Save the query with the name **PitchersAndCatchers**, then compare the results with **FIGURE B-24**, making changes and widening columns to see all of the data. Print the datasheet if requested by your instructor. Save and close the query and the Baseball-B.accdb database, then exit Access 2013.

**FIGURE B-24**

PitchersAndCatchers			
TeamName	PlayerLast	PlayerFirst	Position
Brooklyn Beetles	Student Last Name	Student First Name	1
Brooklyn Beetles	Young	Cyclyie	2
Mayfair Monarchs	Durocher	Luis	1
Mayfair Monarchs	Mathewson	Carl	2
Rocky's Rockets	Spalding	Andrew	1
Rocky's Rockets	Koufax	Sanford	2
Snapping Turtles	Ford	Charles	1
Snapping Turtles	Perry	Greg	2
*			

# Using Forms

**CASE**

Samantha Hooper, a tour developer at Quest Specialty Travel, asks you to create forms to make tour information easier to access, enter, and update.

## Unit Objectives

After completing this unit, you will be able to:

- Use the Form Wizard
- Create a split form
- Use Form Layout View
- Add fields to a form
- Modify form controls
- Create calculations
- Modify tab order
- Insert an image

## Files You Will Need

QuestTravel-C.accdb	Membership-C.accdb
QuestLogo.bmp	People.jpg
RealEstate-C.accdb	Recycle-C.accdb
ForSale.bmp	Jobs-C.accdb
Dives-C.accdb	Baseball-C.accdb

Microsoft® product screenshots used with permission from Microsoft® Corporation.

**Learning Outcomes**

- Create a form with the Form Wizard
- Sort data in a form
- Describe form terminology and views

# Use the Form Wizard

A **form** is an easy-to-use data entry and navigation screen. A form allows you to arrange the fields of a record in any layout so a **database user** can quickly and easily find, enter, edit, and analyze data. The **database designer** is the person responsible for building and maintaining tables, queries, forms, and reports for all of the database users. **CASE** → *Samantha Hooper asks you to build a form to enter and maintain tour information.*

## STEPS

1. Start Access, open the **QuestTravel-C.accdb** database from the location where you store your Data Files, then enable content if prompted

You can use many methods to create a new form, but the Form Wizard is a fast and popular tool that helps you get started. The **Form Wizard** prompts you for information it needs to create a form, such as the fields, layout, and title for the form.

2. Click the **CREATE** tab on the Ribbon, then click the **Form Wizard** button in the **Forms group**

The Form Wizard starts, prompting you to select the fields for this form. You want to create a form to enter and update data in the Tours table.

3. Click the **Tables/Queries** list arrow, click **Table: Tours**, then click the **Select All Fields button** 

You could now select fields from other tables, if necessary, but in this case, you have all of the fields you need.

4. Click **Next**, click the **Columnar** option button, click **Next**, type **Tours Entry Form** as the title, then click **Finish**

The Tours Entry Form opens in **Form View**, as shown in **FIGURE C-1**. Access provides three different views of forms, as summarized in **TABLE C-1**. Each item on the form is called a **control**. A **label control** is used to *describe* the data shown in other controls such as text boxes. A label is also used for the title of the form, Tours Entry Form. A **text box** is used to *display* the data as well as enter, edit, find, sort, and also filter the data. A **combo box** is a combination of two controls: a text box and a list. The Category data is displayed in a combo box control. You click the arrow button on a combo box control to display a list of values, or you can edit data directly in the combo box itself.

5. Click **Breeze Bay Shelling** in the **TourName** text box, click the **Ascending** button in the **Sort & Filter** group, then click the **Next record** button  in the navigation bar to move to the second record

The Ames Ski Club is the second record when the records are sorted in ascending order on the TourName data. Information about the current record number and total number of records appears in the navigation bar, just as it does in a datasheet.

6. Click the **Previous record** button  in the navigation bar to move back to the first record, click the **TourName** text box, then change American Heritage Tour to Washington DC History Tour

Your screen should look like **FIGURE C-2**. Forms displayed in Form View are the primary tool for database users to enter, edit, and delete data in an Access database.

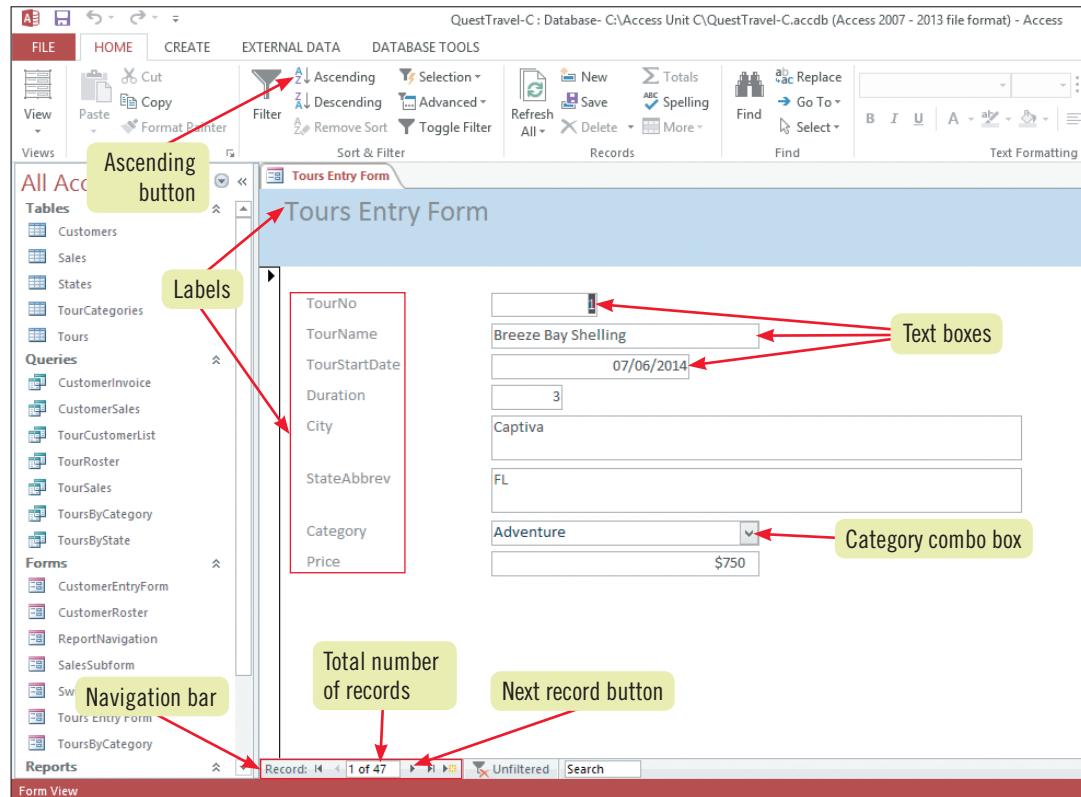
7. Right-click the **Tours Entry Form** tab, then click **Close**

When a form is closed, Access automatically saves any edits made to the current record.

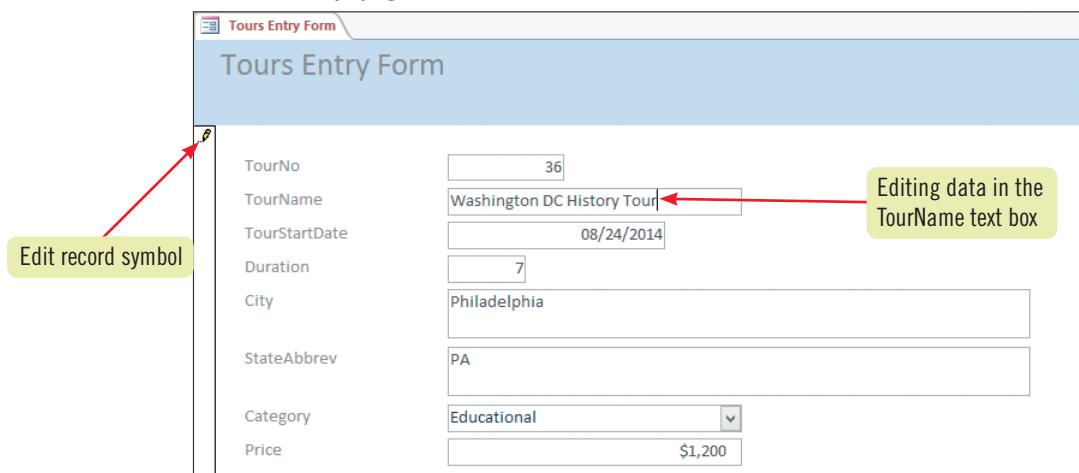
**QUICK TIP**

Click in the text box of the field you want to sort before clicking a sort button.

**FIGURE C-1:** Tours Entry Form in Form View



**FIGURE C-2:** Displaying the results of a calculation in Form View



**TABLE C-1:** Form views

view	primary purpose
Form	To find, sort, enter, and edit data
Layout	To modify the size, position, or formatting of controls; shows data as you modify the form, making it the tool of choice when you want to change the appearance and usability of the form while viewing live data
Design	To modify the Form Header, Detail, and Footer section, or to access the complete range of controls and form properties; Design View does not display data

**Learning Outcomes**

- Create a split form
- Enter and edit data in a form

# Create a Split Form

In addition to the Form Wizard, you should be familiar with several other form creation tools. **TABLE C-2** identifies those tools and the purpose for each. **CASE** → Samantha Hooper asks you to create another form to manage customer data. You'll work with the Split Form tool for this task.

## STEPS

**QUICK TIP**

Layout View allows you to view and filter the data, but not edit it.

1. Click the **Customers** table in the Navigation Pane, click the **CREATE** tab, click the **More Forms** button, click **Split Form**, then click the **Add Existing Fields** button in the Tools group on the **DESIGN** tab to close the Field List if it opens

The Customers data appears in a split form with the top half in **Layout View**, as shown in **FIGURE C-3**. The benefit of a **split form** is that the upper pane allows you to display the fields of one record in any arrangement, and the lower pane maintains a datasheet view of the first few records. If you edit, sort, or filter records in the upper pane, the lower pane is automatically updated, and vice versa.

2. Click **MO** in the **State** text box in the upper pane, click the **HOME** tab, click the **Selection button** in the **Sort & Filter** group, then click **Does Not Equal "MO"**

Thirty-seven records are filtered where the State field is not equal to MO. You also need to change a value in the Jacob Alman record.

**TROUBLE**

Make sure you edit the record in the datasheet in the lower pane.

3. In the lower pane, select **Des Moines** in the **City** field of the first record, edit the entry to read **Dallas Center**, click any other record in the lower pane, then click **Jacob** in the first record of the lower pane

Moving from record to record automatically saves data. Note that “Dallas Center” is now the entry in the City field in both the upper and lower panes, as shown in **FIGURE C-4**.

4. Click the **record selector** for the Kristen Collins record in the lower pane, then click the **Delete** button in the **Records** group on the **HOME** tab

You cannot delete this record because it contains related records in the Sales table. This is a benefit of referential integrity on the one-to-many relationship between the Customers and Sales tables. Referential integrity prevents the creation of **orphan records**, records on the *many* side of a relationship (in this case, the Sales table) that do not have a match on the *one* side (in this case, the Customers table).

5. Click **OK**, right-click the **Customers** form tab, click **Close**, click **Yes** when prompted to save changes, then click **OK** to save the form with the name **Customers**

**TABLE C-2:** Form creation tools

tool	icon	creates a form
Form		with one click based on the selected table or query
Form Design		from scratch in Form Design View
Blank Form		from scratch in Form Layout View
Form Wizard		by answering a series of questions provided by the Form Wizard dialog boxes
Navigation		used to navigate or move between different areas of the database
More Forms		based on Multiple Items, Datasheet, Split Form, Modal Dialog, PivotChart, or PivotTable arrangements
Split Form		with two panes, the upper showing one record at a time and the lower displaying a datasheet of many records

**FIGURE C-3:** Customers table in a split form

CustNo	FName	LName	Street	City	State	Zip	Phone	FirstContact
1	Gracita	Mayberry	52411 Oakmont Rd	Kansas City	MO	64144	(555) 444-1234	Friend
2	Jacob	Alman	2505 McGee St	Des Moines	IA	50288	(555) 111-6931	Friend
3	Julia	Bouchart	5200 Main St	Kansas City	MO	64105	(555) 111-3081	Mail
4	Jane	Taylor	8206 Marshall Dr	Lenexa	KS	66214	(555) 222-9101	Mail
5	Samantha	Braven	600 Elm St	Olathe	KS	66031	(555) 222-7002	Friend
6	Kristen	Collins	520 W 52nd St	Kansas City	KS	64105	(555) 222-3602	Radio
7	Tom	Camel	520 W 52nd St	Kansas City	KS	64105	(555) 222-3602	Radio
8	Dick	Tracy	66020 King St	Overland Park	KS	66210	(555) 222-8402	Internet

**FIGURE C-4:** Editing data in a split form

CustNo	FName	LName	Street	City	State	Zip	Phone	FirstContact
2	Jacob	Alman	2505 McGee St	Dallas Center	IA	50288	(555) 111-6931	Friend
4	Jane	Taylor	8206 Marshall Dr	Lenexa	KS	66214	(555) 222-9101	Mail
5	Samantha	Braven	600 Elm St	Olathe	KS	66031	(555) 222-7002	Friend
6	Kristen	Collins	520 W 52nd St	Kansas City	KS	64105	(555) 222-3602	Radio
7	Tom	Camel	520 W 52nd St	Kansas City	KS	64105	(555) 222-3602	Radio
8	Dick	Tracy	66020 King St	Overland Park	KS	66210	(555) 222-8402	Internet

**Learning Outcomes**

- Resize controls in Layout View
- Format controls in Layout View

**STEPS**

1. Right-click **Tours Entry Form** in the Navigation Pane, then click **Layout View**

In Layout View, you can move through the records, but you cannot enter or edit the data as you can in Form View.

**TROUBLE**

If your third record is not Bigfoot Rafting Club, sort the records in ascending order on the TourName field.

2. Click the **Next record button** in the navigation bar twice to move to the third record, **Bigfoot Rafting Club**

You often use Layout View to make minor design changes, such as editing labels and changing formatting characteristics.

3. Click the **TourNo label** to select it if it is not already selected, click between the words **Tour** and **No**, then press **[Spacebar]**

You also want to edit a few more labels.

**TROUBLE**

Be sure to modify the *labels in the left column* instead of the text boxes on the right.

4. Continue editing the labels, as shown in **FIGURE C-5**

You also want to change the text color of the first two labels, Tour No and Tour Name, to red to make them more noticeable.

5. Click the **Tour No label**, click the **HOME tab**, click the **Font Color button**  in the Text Formatting group, click the **Tour Name label**, then click 

Often, you want to apply the same formatting enhancement to multiple controls. For example, you decide to narrow the City and StateAbbrev text boxes. Select the text boxes at the same time to make the same change to both.

**TROUBLE**

Be sure to modify the *text boxes in the right column* instead of the labels on the left.

6. Click **Placerville** in the **City** text box, press and hold **[Shift]**, click **CA** in the **StateAbbrev** text box to select the two text boxes at the same time, release **[Shift]**, then use the  pointer to drag the **right edge of the selection** to the left to make the text boxes approximately half as wide

Layout View for the Tours Entry Form should look like **FIGURE C-6**. Mouse pointers in Form Layout and Form Design View are very important as they indicate what happens when you drag the mouse. Mouse pointers are described in **TABLE C-3**.

**TABLE C-3:** Mouse pointer shapes

shape	when does this shape appear?	action
	When you point to any unselected control on the form (the default mouse pointer)	Single-clicking with this mouse pointer selects a control
	When you point to the upper-left corner or edge of a selected control in Form Design View or the middle of the control in Form Layout View	Dragging with this mouse pointer moves the selected control(s)
	When you point to any sizing handle (except the larger one in the upper-left corner in Form Design View)	Dragging with one of these mouse pointers resizes the control

**FIGURE C-5:** Using Layout View to modify form labels on the Tours Entry Form

Tours Entry Form

Tour No	46
Tour Name	Bigfoot Rafting Club
Tour Start Date	07/13/2014
Duration	4
City	Placerville
State Abbrev	CA
Category	Adventure
Price	\$455

**FIGURE C-6:** Layout View for the Tours Entry Form

Tours Entry Form

Tour No	46
Tour Name	Bigfoot Rafting Club
Tour Start Date	07/13/2014
Duration	4
City	Placerville
State Abbrev	CA
Category	Adventure
Price	\$455

## Table layouts

**Layouts** provide a way to group several controls together on a form or report to more quickly add, delete, rearrange, resize, or align controls. To insert a layout into a form or report, select the controls you want to group together, then choose the Stacked or Tabular button on the ARRANGE tab. Each option applies a table

layout to the controls so that you can insert, delete, merge, or split the cells in the layout to quickly rearrange or edit the controls in the layout. To remove a layout, use the Remove Layout button on the ARRANGE tab in Form Design View.

**Learning Outcomes**

- Add fields to a form
- Align controls
- Resize controls

**STEPS**

# Add Fields to a Form

Adding and deleting fields in an existing form is a common activity. You can add or delete fields in a form in either Layout View or Design View using the Field List. The **Field List** lists the database tables and the fields they contain. To add a field to the form, drag it from the Field List to the desired location on the form. To delete a field on a form, click the field to select it, then press the [Delete] key. Deleting a field from a form does not delete it from the underlying table or have any effect on the data contained in the field. You can toggle the Field List on and off using the Add Existing Fields button on the DESIGN tab. **CASE** → *Samantha Hooper asks you to add the tour description from the TourCategories table to the Tours Entry Form. You can use Layout View and the Field List to accomplish this goal.*

**QUICK TIP**

If you make a mistake, click the Undo button  and try again.

1. Click the **DESIGN** tab on the Ribbon, click the **Add Existing Fields** button in the Tools group, then click the **Show all tables** link in the Field List

The Field List opens in Layout View, as shown in **FIGURE C-7**. Notice that the Field List is divided into sections. The upper section shows the tables currently used by the form, the middle section shows directly related tables, and the lower section shows other tables in the database. The expand/collapse button to the left of the table names allows you to expand (show) the fields within the table or collapse (hide) them. The Description field is in the TourCategories table in the middle section.

2. Click the **expand** button  to the left of the TourCategories table, drag the **Description** field to the form, then use the  pointer to drag the new Description text box and label below the Price label

When you add a new field to a form, two controls are usually created: a label and a text box. The label contains the field name and the text box displays the data in the field. The TourCategories table moved from the middle to the top section of the Field List. You also want to align and size the new controls with others already on the form. Form Design View works well for alignment activities.

3. Right-click the **Tours Entry Form** tab, click **Design View**, click the **Description** label, press and hold **[Shift]**, click the **Price** label to select both labels, release **[Shift]**, click the **ARRANGE** tab, click the **Align** button in the Sizing & Ordering group, then click **Left**

Now resize the labels.

4. With the two labels still selected, click the **Size/Space** button in the Sizing & Ordering group, then click **To Widest**

With the new controls in position, you want to enter a new record. You must switch to Form View to edit, enter, or delete data.

**TROUBLE**

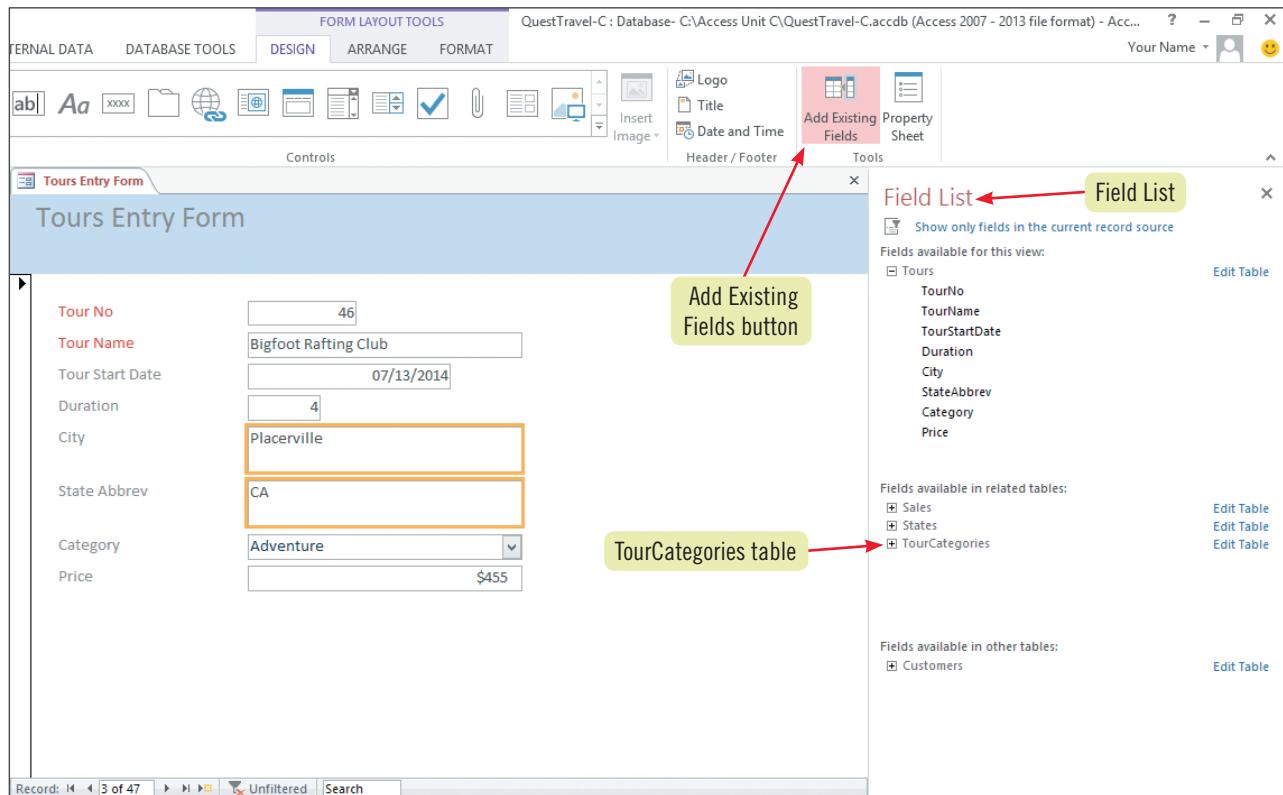
Don't worry if your Tour No value doesn't match

**FIGURE C-8.** As an AutoNumber value, the value is inserted automatically and is controlled by Access.

5. Click the **HOME** tab, click the **View** button  to switch to Form View, click the **New (blank)** record button  in the navigation bar, click the **TourName** text box, then enter a new record in the updated form, as shown in **FIGURE C-8**

Note that when you select a value in the Category combo box, the Description is automatically updated. This is due to the one-to-many relationship between the TourCategories and Tours tables in the Relationships window.

**FIGURE C-7: Field List in Form Layout View**



**FIGURE C-8: Entering a record in the updated Tours Entry Form in Form View**

The screenshot shows the 'Tours Entry Form' in Form View. A new record is being entered with the following values:

Field	Value
Tour No	53
Tour Name	Schaller Popcorn Days
Tour Start Date	07/03/2015
Duration	2
City	Schaller
StateAbbrev	IA
Category	Family
Price	500
Description	Family tours include weddings and i

Annotations highlight specific elements:

- A yellow box labeled 'Your TourNo value may be different' has a red arrow pointing to the 'Tour No' field.
- A yellow box labeled 'Price label' has a red arrow pointing to the 'Price' label.
- A yellow box labeled 'Description label' has a red arrow pointing to the 'Description' label.
- A yellow box labeled 'New Description combo box' has a red arrow pointing to the 'Description' dropdown field.

### Bound versus unbound controls

Controls are either bound or unbound. **Bound controls** display values from a field such as text boxes and combo boxes.

**Unbound controls** do not display data; unbound controls describe data or enhance the appearance of the form. Labels are the most common type of unbound control, but other types include lines, images, tabs, and command buttons. Another way

to distinguish bound from unbound controls is to observe the form as you move from record to record. Because bound controls display data, their contents change as you move through the records, displaying the entry in the field of the current record. Unbound controls such as labels and lines do not change as you move through the records in a form.

**Learning Outcomes**

- Modify control properties
- Define bound and unbound controls

**STEPS**

You have already made many modifications to form controls, such as changing the font color of labels and the size of text boxes. Labels and text boxes are the two most popular form controls. Other common controls are listed in **TABLE C-4**. When you modify controls, you change their **properties** (characteristics). All of the control characteristics you can modify are stored in the control's **Property Sheet**. **CASE** → Because Quest offers more Adventure tours than any other type of tour, you decide to use the Property Sheet of the Category field to modify the default value to be "Adventure." You also use the Property Sheet to make other control modifications to better size and align the controls.

1. Click the **Layout View button**  on the **HOME tab**, then click the **Property Sheet button** in the **Tools group**

The Property Sheet opens, showing you all of the properties for the selected item.

2. Click the **Category combo box**, click the **Data tab** in the **Property Sheet** (if it is not already selected), click the **Default Value box**, type **Adventure**, then press **[Enter]**

The Property Sheet should look like **FIGURE C-9**. Access often helps you with the **syntax** (rules) of entering property values. In this case, Access added quotation marks around "Adventure" to indicate that the default entry is text. Properties are categorized in the Property Sheet with the Format, Data, Event, and Other tabs. The All tab is a complete list of all the control's properties. You can use the Property Sheet to make all control modifications, although you'll probably find that some changes are easier to make using the Ribbon. The property values change in the Property Sheet as you modify a control using the Ribbon.

3. Click the **Format tab** in the **Property Sheet**, click the **Tour No label** in the **form** to select it, click the **HOME tab** on the **Ribbon**, then click the **Align Right button**  in the **Text Formatting group**

Notice that the **Text Align property** on the Format tab in the Property Sheet is automatically updated from Left to Right even though you changed the property using the Ribbon instead of within the Property Sheet.

4. Click the **Tour Name label**, press and hold **[Shift]**, then click each other label in the first column on the form

With all the labels selected, you can modify their Text Align property at the same time.

5. Click  in the **Text Formatting group**

Don't be overwhelmed by the number of properties available for each control on the form or the number of ways to modify each property. Over time, you will learn about most of these properties. At this point, it's only important to know the purpose of the Property Sheet and understand that properties are modified in various ways.

6. Click the **Save button**  on the **Quick Access toolbar**, click the **Form View button**  to switch to **Form View**, click the **New (blank) record button**  in the **navigation bar**, then enter the record shown in **FIGURE C-10**

For new records, "Adventure" is provided as the default value for the Category combo box, but you can change it by typing a new value or selecting one from the list. With the labels right-aligned, they are much closer to the data in the text boxes that they describe.

**TROUBLE**

Be sure to click the Tour No label on the left, not the TourNo text box on the right.

**TROUBLE**

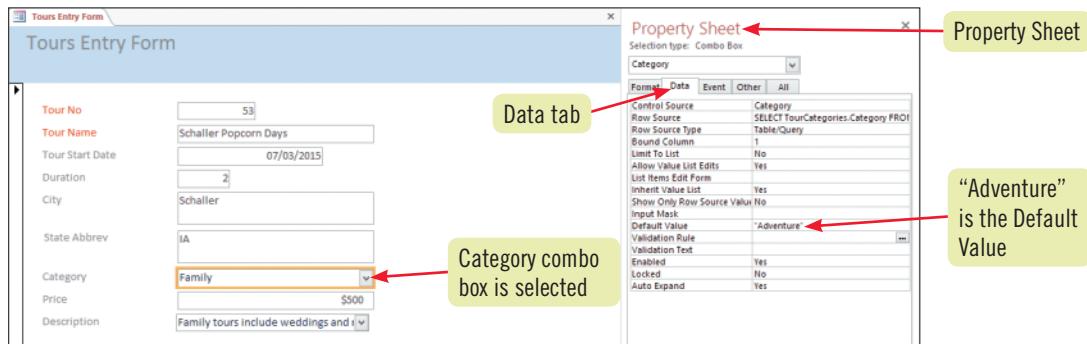
You may need to click  twice.

**TROUBLE**

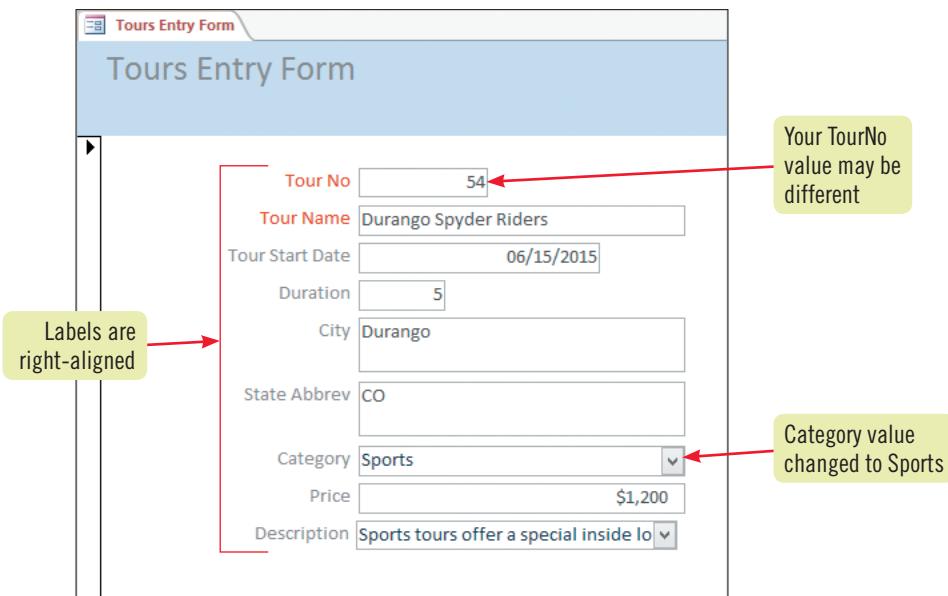
Don't worry if your Tour No value doesn't match

**FIGURE C-10.** It is an AutoNumber value, controlled by Access.

**FIGURE C-9:** Using the Property Sheet



**FIGURE C-10:** Modified Tours Entry Form



**TABLE C-4:** Common form controls

name	used to	bound	unbound
Label	Provide consistent descriptive text as you navigate from record to record; the label is the most common type of unbound control and can also be used as a hyperlink to another database object, external file, or Web page		•
Text box	Display, edit, or enter data for each record from an underlying record source; the text box is the most common type of bound control	•	
List box	Display a list of possible data entries		•
Combo box	Display a list of possible data entries for a field, and provide a text box for an entry from the keyboard; combines the list box and text box controls	•	
Tab control	Create a three-dimensional aspect on a form		•
Check box	Display "yes" or "no" answers for a field; if the box is checked, it means "yes"	•	
Toggle button	Display "yes" or "no" answers for a field; if the button is pressed, it means "yes"	•	
Option button	Display a choice for a field		•
Option group	Display and organize choices (usually presented as option buttons) for a field	•	
Line and Rectangle	Draw lines and rectangles on the form		•
Command button	Provide an easy way to initiate a command or run a macro		•

**Learning Outcomes**

- Build calculations on a form
- Move controls on a form

**STEPS**

# Create Calculations

Text boxes are generally used to display data from underlying fields. The connection between the text box and field is defined by the **Control Source property** on the Data tab of the Property Sheet for that text box. A text box control can also display a calculation. To create a calculation in a text box, you enter an expression instead of a field name in the Control Source property. An **expression** is a combination of field names, operators (such as +, -, /, and \*), and functions (such as Sum, Count, or Avg) that results in a single value. Sample expressions are shown in TABLE C-5. **CASE** → Samantha Hooper asks you to add a text box to the Tours Entry Form to calculate the tour end date. You can add a text box in Form Design View to accomplish this.

**QUICK TIP**

You can also press an arrow key to move a selected control.

**TROUBLE**

If you position the new text box incorrectly, click  on the Quick Access toolbar and try again.

**TROUBLE**

The number in your label is based on previous work done to the form, so it might vary.

**QUICK TIP**

Move the Property Sheet by dragging its title bar.

**1. Right-click the Tours Entry Form tab, then click Design View**

You want to add the tour end date calculation just below the Duration text box. First, you'll resize the City and StateAbbrev fields.

**2. Click the City label, press and hold [Shift], click the City text box, click the State Abbrev label, click the StateAbbrev text box to select the four controls together, release [Shift], click the ARRANGE tab, click the Size/Space button, then click To Shortest**

With the City and StateAbbrev fields resized, you're ready to move them to make room for the new control to calculate the tour end date.

**3. Click a blank spot on the form to deselect the four controls, click the StateAbbrev text box, use the  pointer to move it down, click the City text box, then use the  pointer to move it down**

To add the calculation to determine the tour end date (the tour start date plus the duration), start by adding a new text box to the form between the Duration and City text boxes.

**4. Click the DESIGN tab, click the Text Box button  in the Controls group, then click between the Duration and City text boxes to insert the new text box**

Adding a new text box automatically adds a new label to the left of the text box.

**5. Click the new Text20 label on the left, double-click Text20, type Tour End Date, then press [Enter]**

With the label updated to correctly identify the text box to the right, you're ready to enter the expression to calculate the tour end date.

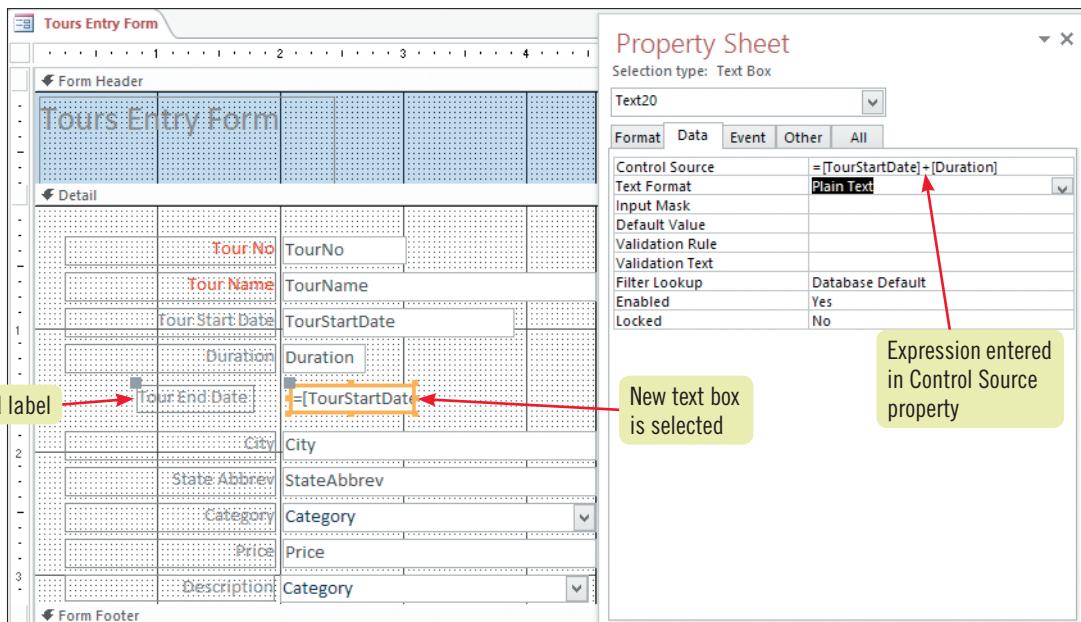
**6. Click the new text box to select it, click the Data tab in the Property Sheet, click the Control Source property, type =[TourStartDate]+[Duration], then press [Enter] to update the form, as shown in FIGURE C-11**

All expressions entered in a control start with an equal sign (=). When referencing a field name within an expression, [square brackets]—(not parentheses) and not {curly braces}—surround the field name. In an expression, you must type the field name exactly as it was created in Table Design View, but you do not need to match the capitalization.

**7. Click the View button  to switch to Form View, click the value in the Tour Name text box, click the Ascending button, select 7 in the Duration text box, type 5, then press [Enter]**

Note that the tour end date, calculated by an expression, automatically changed to five days after the tour start date to reflect the new duration value. The updated Tours Entry Form with the tour date end calculation for the Ames Ski Club is shown in FIGURE C-12.

**FIGURE C-11:** Adding a text box to calculate a value



**FIGURE C-12:** Displaying the results of a calculation in Form View

The screenshot shows the Microsoft Access 'Tours Entry Form' in Form View. The 'Tour End Date' field displays '1/7/2015'. A callout bubble explains that the date is calculated as 5 days after the Tour Start Date using the formula  $=[\text{TourStartDate}]+[\text{Duration}]$ .

**TABLE C-5:** Sample expressions

sample expression	description
=Sum([Salary])	Uses the <b>Sum</b> function to add the values in the Salary field
= [Price] * 1.05	Multiplies the Price field by 1.05 (adds 5% to the Price field)
= [Subtotal] + [Shipping]	Adds the value of the Subtotal field to the value of the Shipping field
=Avg([Freight])	Uses the <b>Avg</b> function to display an average of the values in the Freight field
=Date()	Uses the <b>Date</b> function to display the current date in the form of mm-dd-yy
= "Page " & [Page]	Displays the word Page, a space, and the result of the [Page] field, an Access field that contains the current page number
= [FirstName] & " " & [LastName]	Displays the value of the FirstName and LastName fields in one control, separated by a space
=Left([ProductName],2)	Uses the <b>Left</b> function to display the first two characters in the ProductNumber field

**Learning Outcomes**

- Modify tab order properties

# Modify Tab Order

After positioning all of the controls on the form, you should check the tab order and tab stops. **Tab order** is the order the focus moves as you press [Tab] in Form View. A **tab stop** refers to whether a control can receive the focus in the first place. By default, the Tab Stop property for all text boxes and combo boxes is set to Yes, but some text boxes, such as those that contain expressions, will not be used for data entry. Therefore, the Tab Stop property for a text box that contains a calculation should be set to No. Unbound controls such as labels and lines do not have a Tab Stop property because they cannot be used to enter or edit data. **CASE** You plan to check the tab order of the Tours Entry Form, then change tab stops and tab order as necessary.

## STEPS

1. Press **[Tab]** enough times to move through several records, watching the focus move through the bound controls of the form

Because the Tour End Date text box is a calculated field, you don't want it to receive the focus. To prevent the Tour End Date text box from receiving the focus, you set its Tab Stop property to No using its Property Sheet. You can work with the Property Sheet in either Layout or Design View.

2. Right-click the **Tours Entry Form** tab, click **Design View**, click the **text box** with the Tour End Date calculation if it is not selected, click the **Other tab** in the Property Sheet, double-click the **Tab Stop property** to toggle it from Yes to **No**, then change the **Name property** to **TourEndDate**, as shown in **FIGURE C-13**

The Other tab of the Property Sheet contains the properties you need to change the tab stop and tab order. The **Tab Stop property** determines whether the field accepts focus, and the **Tab Index property** indicates the numeric tab order for all controls on the form that have the Tab Stop property set to Yes. The **Name property** on the Other tab is also important as it identifies the name of the control, which is used in other areas of the database. To review your tab stop changes, return to Form View.

3. Click the **View button**  to switch to Form View, then press **[Tab]** nine times to move to the next record

Now that the tab stop has been removed from the TourEndDate text box, the tab order flows correctly from the top to the bottom of the form, but skips the calculated field. To review the tab order for the entire form in one dialog box, you must switch to Form Design View.

4. Right-click the **Tours Entry Form** tab, click **Design View**, then click the **Tab Order** button in the **Tools group** to open the **Tab Order** dialog box, as shown in **FIGURE C-14**

The Tab Order dialog box allows you to view and change the tab order by dragging fields up or down using the **field selector** to the left of the field name. Moving fields up and down in this list also renumerates the Tab Index property for the controls in their respective Property Sheets. If you want Access to create a top-to-bottom and left-to-right tab order, click **Auto Order**.

5. Click **OK** to close the **Tab Order** dialog box, click the **Property Sheet button** to toggle it off, then click the **Save button**  on the Quick Access toolbar to save your work

**QUICK TIP**

You can also switch between views using the View buttons in the lower-right corner of the window.

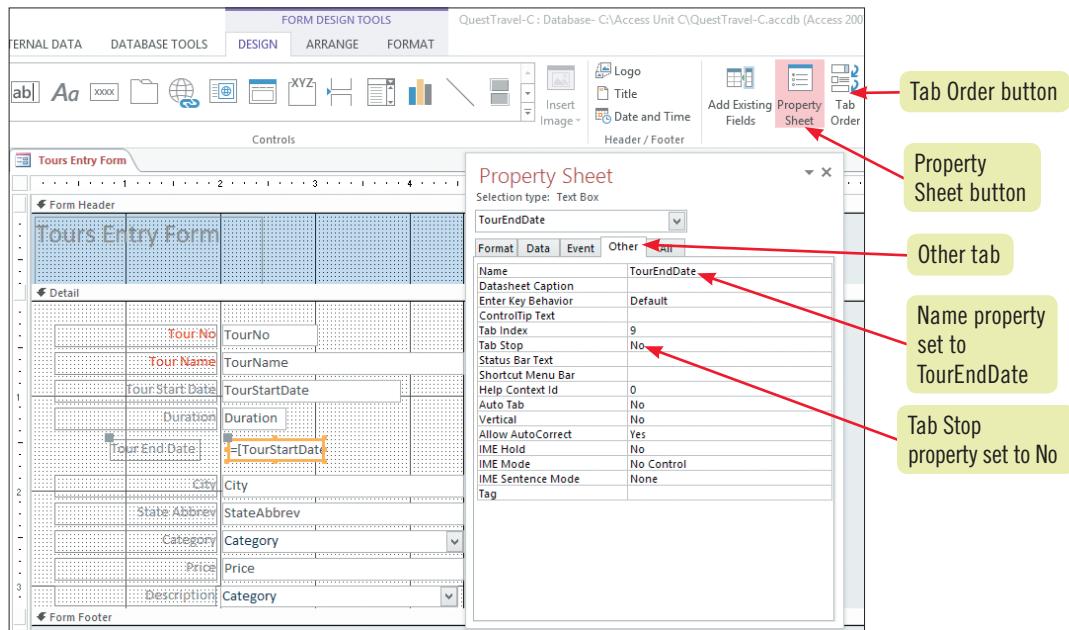
**QUICK TIP**

In Form Design View, press [Ctrl][L] to switch to Form View. In Form View, press [Ctrl][J] to switch to Form Design View.

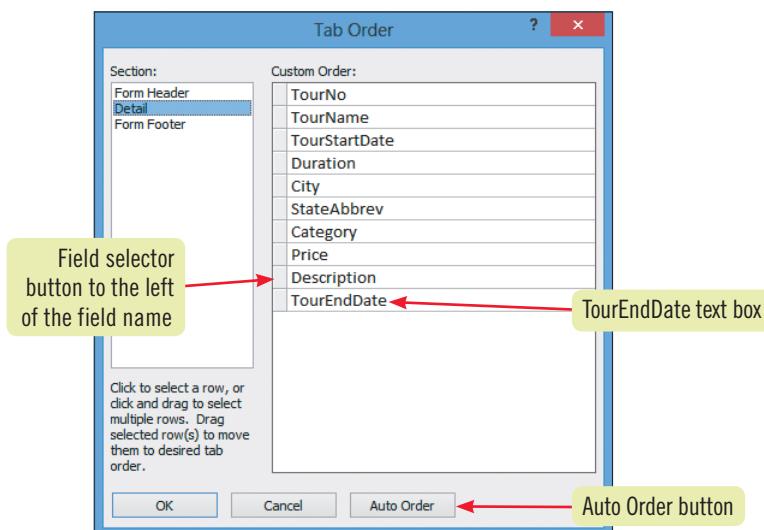
**TROUBLE**

If the order of your fields does not match those in **FIGURE C-14**, move a field by clicking the field selector and then dragging the field up or down.

**FIGURE C-13:** Using the Property Sheet to set tab properties



**FIGURE C-14:** Tab Order dialog box



## Layout positioning

If the controls on a form are organized in a layout, you can quickly modify that layout by modifying the margins, padding, and anchoring options of the layout. Each of these features is found in the Position group on the ARRANGE tab in Form Design

View. **Margin** refers to the space between the outer edge of the control and the data displayed inside the control. **Padding** is the space between the controls. **Anchoring** allows you to tie controls together so you can work with them as a group.

**Learning Outcomes**

- Insert an image on a form
- Modify form sections
- Print a selected record

**STEPS**

# Insert an Image

**Graphic images**, such as pictures, logos, or clip art, can add style and professionalism to a form. The form section in which you place the images is significant. **Form sections** determine where controls are displayed and printed; they are described in **TABLE C-6**. For example, if you add a company logo to the Form Header section, the image appears at the top of the form in Form View as well as at the top of a printout. If you add the same image to the Detail section, it prints next to each record in the printout because the Detail section is printed for every record. **CASE** → *Samantha Hooper suggests that you add the Quest logo to the top of the Tours Entry Form. You can add the control in either Layout or Design View, but if you want to place it in the Form Header section, you have to work in Design View.*

**TROUBLE**

The lower-right corner of the image touches the top edge of the Detail section. To resize the Quest logo, click it to select it.

1. Click the **Form Header section bar**, click the **Insert Image** button in the Controls group, click **Browse**, then navigate to the location where you store your Data Files

The Insert Picture dialog box opens, prompting you for the location of the image.

2. Double-click **QuestLogo.bmp**, then click in the Form Header section at about the **3" mark on the horizontal ruler**

The QuestLogo image is added to the right side of the Form Header. You want to resize it to about  $1'' \times 1''$ .

3. With the QuestLogo image still selected, use the pointer to drag the **lower-right corner of the image up and to the left so that the image is about  $1'' \times 1''$** , then drag the **top edge of the Detail section** up using the pointer, as shown in **FIGURE C-15**

When an image or control is selected in Design View, you can use **sizing handles**, which are small squares at the corners of the selection box. Drag a handle to resize the image or control. With the form completed, you open it in Form View to observe the changes.

4. Click the **Save** button on the Quick Access toolbar, then click the **View** button to switch to Form View

You decide to add one more record with your final Tours Entry Form.

5. Click the **New (blank) record** button in the navigation bar, then enter the new record shown in **FIGURE C-16**, using your last name in the **TourName** field

Now print only this single new record.

**TROUBLE**

If you do not click the **Selected Record(s)** option button, you will print *all* records, which creates a very long printout.

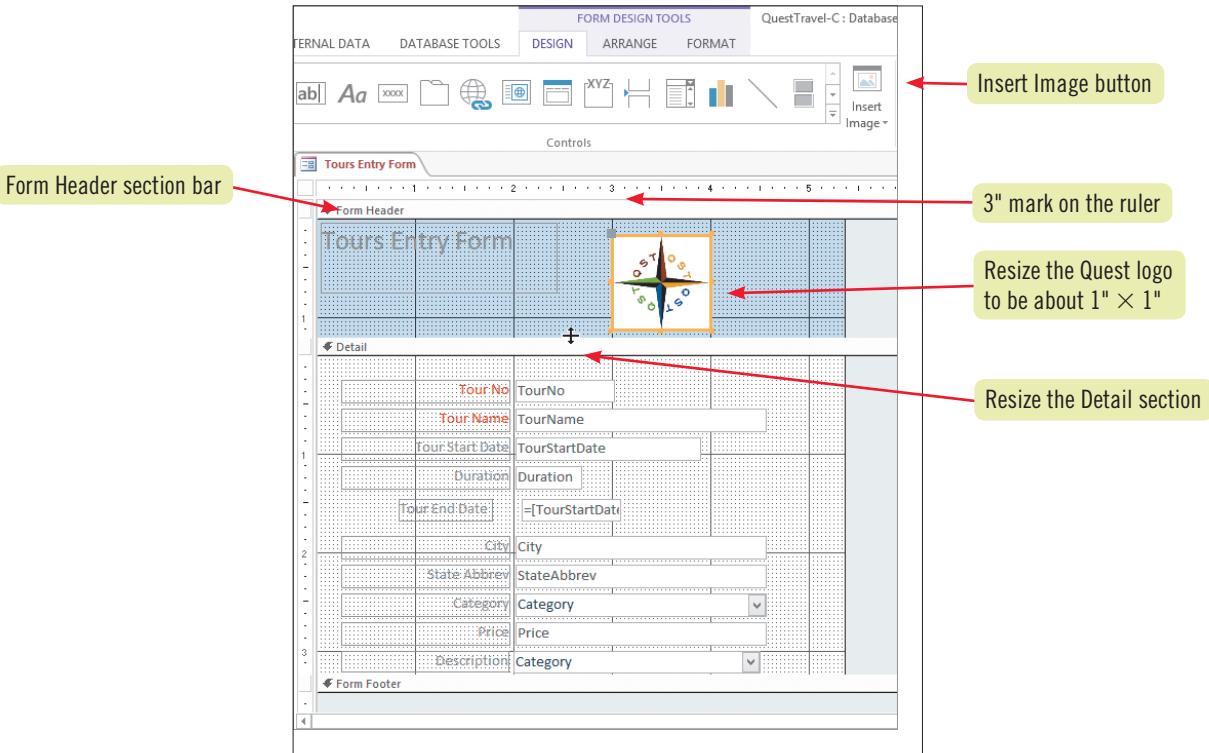
6. Click the **FILE** tab, click **Print** in the navigation bar, click **Print**, click the **Selected Record(s)** option button, then click **OK**

7. Close the Tours Entry Form, click **Yes** if prompted to save it, close the **QuestTravel-C.accdb** database, then exit Access 2013

**TABLE C-6:** Form sections

section	controls placed in this section print:
Form Header	Only once at the top of the first page of the printout
Detail	Once for every record
Form Footer	Only once at the end of the last page of the printout

**FIGURE C-15:** Adding an image to the Form Header section



**FIGURE C-16:** Final Tours Entry Form with new record

Resized Quest logo

Your TourNo value may be different

Your name

### Applying a background image

A **background image** is an image that fills the entire form or report, appearing “behind” the other controls. A background image is sometimes called a watermark image. To add a

background image, use the Picture property for the form or report to browse for the image that you want to use in the background.

# Practice

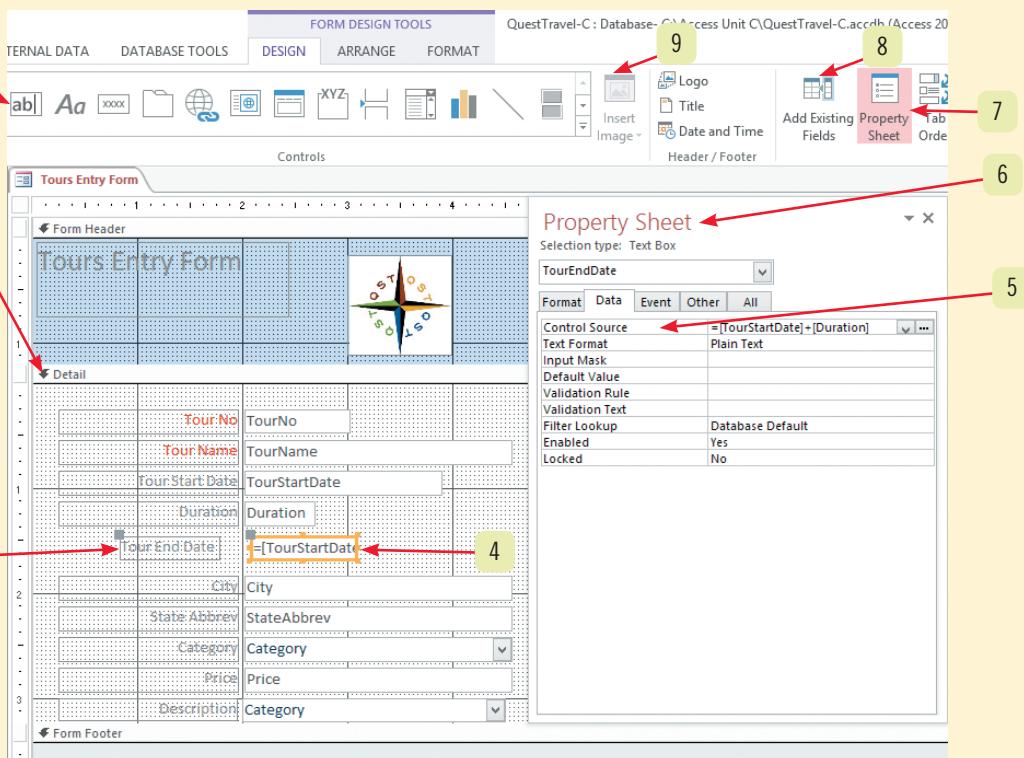
## Concepts Review



Put your skills into practice with **SAM Projects!** SAM Projects for this unit can be found online. If you have a SAM account, go to [www.cengage.com/sam2013](http://www.cengage.com/sam2013) to download the most recent Project Instruction and Start Files.

**Label each element of Form Design View shown in FIGURE C-17.**

**FIGURE C-17**



**Match each term with the statement that best describes it.**

- 10. **Bound control**
- 11. **Calculated control**
- 12. **Detail section**
- 13. **Database designer**
- 14. **Tab order**
- 15. **Form Footer section**

- a. Created by entering an expression in a text box
- b. Controls placed here print once for every record in the underlying record source
- c. Used on a form to display data from a field
- d. Controls placed here print only once at the end of the printout
- e. The way the focus moves from one bound control to the next in Form View
- f. Responsible for building and maintaining tables, queries, forms, and reports

**Select the best answer from the list of choices.**

16. Every element on a form is called a(n):

- a. Property.
- b. Control.
- c. Item.
- d. Tool.

17. Which of the following is probably *not* a graphic image?

- a. Logo
- b. Calculation
- c. Clip art
- d. Picture

**18. The most common bound control is the:**

- a. Text box.
- b. Label.
- c. Combo box.
- d. List box.

**19. The most common unbound control is the:**

- a. Combo box.
- b. Command button.
- c. Label.
- d. Text box.

**20. Which form view *cannot* be used to view data?**

- a. Datasheet
- b. Layout
- c. Preview
- d. Design

## Skills Review

**1. Use the Form Wizard.**

- a. Start Access and open the RealEstate-C.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Click the CREATE tab, then use the Form Wizard to create a form based on all of the fields in the Realtors table. Use a Columnar layout and type **Realtor Entry Form** to title the form.
- c. Add a *new* record with *your* name in the RFirst and RLast text boxes. Note that the RealtorNo field is an AutoNumber field that is automatically incremented as you enter your first and last names. Enter your school's telephone number for the RPhone field value, and enter **4** as the AgencyNo field value.
- d. Save and close the Realtor Entry Form.

**2. Create a split form.**

- a. Click the Agencies table in the Navigation Pane, click the CREATE tab, click the More Forms button, then click Split Form.
- b. Switch to Form View and close the Property Sheet if it opens.
- c. Click the record selector in the lower pane for AgencyNo 3, Emerald Point Realtors, then click the Delete button in the Records group to delete this realtor. Click OK when prompted that you cannot delete this record because there are related records in the Realtors table.
- d. Navigate to the AgencyNo 4, Hollister Real Estate, record in either the upper or lower pane of the split form. Change 7744 Pokeberry Lane to **12345 Amanda Drive**.
- e. Right-click the Agencies form tab, click Close, click Yes when prompted to save changes, type **Agencies Split Form** as the name of the form, then click OK.

**3. Use Form Layout View.**

- a. Open the Realtor Entry Form in Layout View.
- b. Modify the labels on the left to read: **Realtor Number, Realtor First Name, Realtor Last Name, Realtor Phone, Agency Number**.
- c. Modify the text color of the labels to be black.
- d. Resize the RFirst, RLast, and RPhone text boxes on the right to be the same width as the RealtorNo and AgencyNo text boxes.
- e. Save the Realtor Entry Form.

**4. Add fields to a form.**

- a. Open the Field List, show all the tables, then expand the Agencies table to display its fields.
- b. Drag the AgencyName field to the form, then move the AgencyName label and combo box below the Agency Number controls.
- c. Modify the AgencyName label to read **Agency Name**.
- d. Modify the text color of the Agency Name label to black.
- e. Close the Field List and save and close the Realtor Entry Form.

## Skills Review (continued)

### 5. Modify form controls.

- a. Reopen the Realtor Entry Form in Layout View, then use the Align Right button on the HOME tab to right-align each of the labels in the left column.
- b. Save the form, switch to Form View, then use the Agency Name combo box to change the Agency Name to **Marvin and Pam Realtors** for Realtor Number 1.
- c. If the combo box is not wide enough to display the entire entry for Marvin and Pam Realtors, switch back to Layout View and widen the combo box as much as needed to display the entire entry.
- d. In Layout View, resize and move all controls so that the labels are lined up on the left and the text boxes are lined up on the right, as shown in **FIGURE C-18**.

### 6. Create calculations.

- a. Switch to Form Design View, then add a text box below the Realtor Entry Form label in the Form Header section. Delete the Text14 label that is created when you add a new text box. The number in your label is based on previous work done to the form, so it might vary.
- b. Widen the text box to be almost as wide as the entire form, then enter the following expression into the text box, which will add the words *Information for* to the realtor's first name, a space, and then the realtor's last name.  
**= "Information for" & [RFirst] & " " & [RLast]**
- c. Save the form, then view it in Form View. Be sure the new text box correctly displays spaces in the text. Return to Design View to edit the expression if #Name? appears, which indicates that the expression was entered incorrectly.
- d. In Form View, change the Realtor Last Name for Realtor Number 1 from West to **South**. Tab to the RPhone text box to observe how the expression in the Form Header automatically updates.
- e. Tab through several records, observing the expression in the Form Header section.

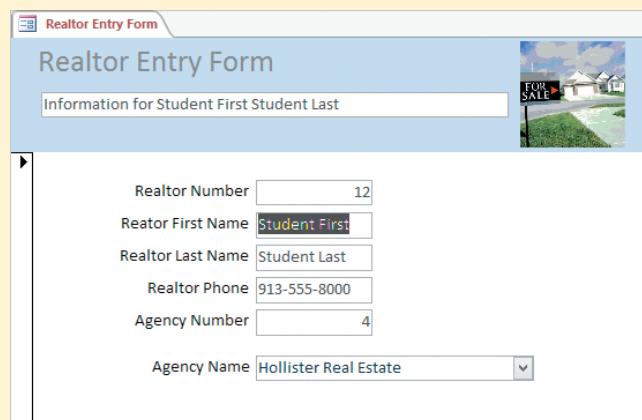
### 7. Modify tab order.

- a. Switch to Form Design View, then open the Property Sheet.
- b. Select the new text box with the expression in the Form Header section, then change the Tab Stop property from Yes to No.
- c. Select the RealtorNo text box in the Detail section, then change the Tab Stop property from Yes to No. (AutoNumber fields cannot be edited, so they do not need to have a tab stop.)
- d. Close the Property Sheet.
- e. Save the form and view it in Form View. Tab through the form to make sure that the tab order is sequential and skips the expression in the Form Header as well as the Realtor Number text box. Use the Tab Order button on the DESIGN tab in Form Design View to modify tab order, if necessary.

### 8. Insert an image.

- a. Switch to Design View, then click the Form Header section bar.
- b. Add the ForSale.bmp image to the right side of the Form Header, then resize the image to be about 1" × 1".
- c. Remove extra blank space in the Form Header section by dragging the top edge of the Detail section up as far as possible.
- d. Drag the right edge of the form as far as possible to the left.
- e. Save the form, then switch to Form View. Move through the records, observing the calculated field from record to record to make sure it is calculating correctly.
- f. Find the record with your name, as shown in **FIGURE C-18**, and if requested by your instructor, print only that record.
- g. Close the Realtor Entry Form, close the RealEstate-C.accdb database, then exit Access.

**FIGURE C-18**



## Independent Challenge 1

As the manager of the scuba divers branch of the Quest Specialty Travel tour company, you have developed a database to help manage scuba dives. In this exercise, you'll create a data entry form to manage the dive trips.

- a. Start Access, then open the Dives-C.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Using the Form Wizard, create a form that includes all the fields in the DiveTrips table and uses the Columnar layout, then type **Dive Trip Entry** as the title of the form.
- c. Switch to Layout View, then delete the ID text box and label.
- d. Using Form Design View, use the [Shift] key to select all of the text boxes except the last one for TripReport, then resize them to the shortest size using the To Shortest option on the Size/Space button on the ARRANGE tab.
- e. Using Form Design View, resize the Location, City, State/Province, Country, and Lodging text boxes to be no wider than the Rating text box.
- f. Using Form Design View, move and resize the controls, as shown in **FIGURE C-19**. Once the controls are resized, drag the top of the Form Footer section up to remove the extra blank space in the Detail section.
- g. Using Form Layout View, modify the labels and alignment of the labels, as shown in **FIGURE C-19**. Note that there are spaces between the words in the labels, the labels are right-aligned, and the text boxes are left-aligned. Use a dark blue color for the labels and black for the text in the text boxes.
- h. In Form View, find the Great Barrier Reef tour. Edit the State/Province, Certification Diving, and Trip Report fields, as shown in **FIGURE C-19** for the TripReport field using *your name*.
- i. Save the form, then if requested by your instructor, print only the record with your name.
- j. Close the Dive Trip Entry form, close the Dives-C.accdb database, then exit Access 2013.

**FIGURE C-19**

The screenshot shows the 'Dive Trip Entry' form in Microsoft Access 2013. The form contains the following data:

Dive Master ID	1
Location	Great Barrier Reef
City	Cairns
State/Province	QLD
Country	Australia
Trip Start Date	5/14/2015
Lodging	Royal Palm
Rating	4
Certification Diving	<input checked="" type="checkbox"/>
Participants	5
Trip Report	Excellent trip with friendly locals and wonderful weather. Your Name

## Independent Challenge 2

You have built an Access database to track membership in a community service club. The database tracks member names and addresses as well as their status in the club, which moves from rank to rank as the members contribute increased hours of service to the community.

- a. Start Access, then open the Membership-C.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Using the Form Wizard, create a form based on all of the fields of the Members table and only the DuesOwed field in the Status table.
- c. View the data by Members, use a Columnar layout, then enter **Member Information** as the title of the form.
- d. Enter a new record with *your* name and the school name, address, and phone number of your school for the Company and address fields. Give yourself a StatusNo entry of **1**. In the DuesPaid field, enter **75**. DuesOwed automatically displays 100 because that value is pulled from the Status table and is based on the entry in the StatusNo field, which links the Members table to the Status table.
- e. In Layout View, add a text box to the form and move it below the DuesOwed text box.
- f. Open the Property Sheet for the new text box, display the Data tab, and in the Control Source property of the new text box, enter the expression that calculates the balance between DuesOwed and DuesPaid: **= [DuesOwed] - [DuesPaid]**.
- g. Open the Property Sheet for the new label, and change the Caption property on the Format tab for the new label to **Balance**.
- h. Right-align all of the labels in the first column.
- i. Set the Tab Stop property for the text box that contains the calculated Balance to **No**, then close the Property Sheet.
- j. In Layout or Design View, resize DuesPaid and DuesOwed text boxes to be the same width as the new Balance text box, then right-align all data within the three text boxes.

FIGURE C-20

Member Information

FName Student First  
LName Student Last  
Company JCCC  
Street 12345 College Blvd  
City Overland Park  
State KS  
Zip 66213  
Phone (444) 850-5555  
StatusNo 1  
DuesPaid \$85.00  
DuesOwed \$100.00  
Balance \$15.00



## Independent Challenge 2 (continued)

- k. Open the Property Sheet for the text box that contains the expression, and change the Format property on the Format tab to Currency. Close the Property Sheet.
- l. Switch to Form Design View, then drag the right edge of the form to the 7" mark on the horizontal ruler. The horizontal ruler is located just above the Form Header section.
- m. Click a blank spot on the right edge of the form, click the Insert Image button on the DESIGN tab, browse for the People.jpg image, then insert it on the right side of the form in the Detail section. (*Hint:* You will need to change the Web-Ready Image Files list in the Insert Picture dialog box to All Files to find .jpg images.)
- n. Resize the picture to be about 2" × 2", then drag the right edge of the form to the left as far as possible. Also drag the top edge of the Form Footer up as far as possible to eliminate blank space in the Detail section.
- o. Save the form, find the record with your name, change the DuesPaid value to **85**, then move and resize controls as necessary to match **FIGURE C-20**.
- p. If requested by your instructor, print only the record with your name.
- q. Save and close the Member Information form, then close the Membership-C.accdb database and exit Access 2013.

## Independent Challenge 3

You have built an Access database to organize the deposits at a recycling center. Various clubs regularly deposit recyclable material, which is measured in pounds when the deposits are made.

- a. Open the Recycle-C.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Using the Form Wizard, create a form based on all of the fields in the CenterDeposits query. View the data by Deposits, use the Columnar layout, and title the form **Deposit Listing**.
- c. Switch to Layout View, then make each label bold.
- d. Modify the labels so that CenterName is **Center Name**, DepositDate is **Deposit Date**, and ClubName is **Club Name**.
- e. Switch to Form Design View and resize the CenterName and ClubName text boxes so they are the same height and width as the Weight text box, as shown in **FIGURE C-21**.
- f. Switch to Form View, find and change any entry of Dallas Jaycees in the ClubName field to *your* last name, then print one record with your name if requested by your instructor.
- g. Using Form View of the Deposit Listing form, filter for all records with your last name in the ClubName field.
- h. Using Form View of the Deposit Listing form, sort the filtered records in descending order on the DepositDate field.
- i. Preview the first record, as shown in **FIGURE C-21**. If requested by your instructor, print the first record.
- j. Save and close the Deposit Listing form, close the Recycle-C.accdb database, then exit Access.

**FIGURE C-21**

Center Name	Hugo Trash Can
Deposit Date	10/31/2016
Weight	80
Club Name	Student Last Name

## Independent Challenge 4: Explore

One way you can use an Access database on your own is to record and track your job search efforts. In this exercise, you will develop a form to help you enter data into your job-tracking database.

- a. Start Access and open the Jobs-C.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Click the CREATE tab, then use the Form Wizard to create a new form based on all the fields of both the Employers and Positions tables.
- c. View the data by Employers, use a Datasheet layout for the subform, accept the default names for the form and subform, then open the form to view information.
- d. Use Layout View and Design View to modify the form labels, text box positions, alignment, and sizes, as shown in **FIGURE C-22**. Note that the columns within the subform have been resized to display all of the data in the subform.
- e. Change the CompanyName of IBM in the first record to **Your Last Name's Software**, and if instructed to create a printout, print only that record. Close the Employers form.
- f. Click the Employers table in the Navigation Pane, then use the Split Form option on the More Forms button of the CREATE tab to create a split form on the Employers table. Close and save the split form with the name **Employers Split Form**.

**FIGURE C-22**

The screenshot shows a Microsoft Access application window. At the top, there is a ribbon with tabs like Home, Insert, Page Layout, etc. Below the ribbon, the title bar says "Employers". The main area is titled "Employers". On the left, there is a vertical navigation pane with a tree view. The main workspace contains several text input fields and a subform. The text fields are: "EmployerID" (containing "1"), "Phone" ("515-555-4444"), "Company" ("Your Last Name's Software"), "Street" ("400 Locust St"), and "City State Zip" ("Des Moines, IA 51122"). Below these is a subform titled "Positions" with the following data:

	PositionID	Title	CareerArea	AnnualSalary	Desirability	EmployerID
	1	Marketing Representative	Computers	\$35,000.00	5	1
	2	Systems Engineer	Computers	\$37,000.00	5	1
*	(New)					

## Independent Challenge 4: Explore (continued)

- g. Open the Employers Split Form in Form View, and change the address and phone number information for EmployerID 1 to *your* school's address and phone information, as shown in FIGURE C-23.
- h. Navigate through all five records, then back to EmployerID 1, observing both the upper and lower panes of the split form as you move from record to record.
- i. Open the Employers form and navigate forward and backward through all five records to study the difference between the Employers form, which uses a form/subform versus the Employers Split Form. Even though both the Employers form and Employers Split Form show datasheets in the bottom halves of the forms, they are fundamentally very different. The split form is displaying the records of only the Employers table, whereas the Employers form is using a subform to display related records from the Positions table in the lower datasheet. You will learn more about forms and subforms in later units.
- j. Close the Jobs-C.accdb database, then exit Access.

FIGURE C-23

EmployerID	CompanyName	EmpStreet	EmpCity	EmpState	EmpZip	EmpPhone
1	Your Last Name's Software	Your School's Street	Your School's City	IA	99999	999-999-9999
2	EDS	500 Cricket St	Ames	IA	50010	515-555-3333
3	Google	600 Crocker St	Omaha	NE	66000	616-555-2222
4	Apple	700 Beetle St	Lincoln	NE	66110	616-555-1111
5	Bass Pro Shops	800 Ladybug St	Sioux City	NE	66220	616-555-3333
*	(New)					

## Visual Workshop

Open the Baseball-C.accdb database, enable content if prompted, then use the Split Form tool to create a form named **Players**, as shown in **FIGURE C-24**, based on the Players table. Resize the PlayerLast text box as shown. Modify the labels as shown. View the data in Form View, and sort the records in ascending order by last name. Change the first, last, and nickname of the Henry Aaron record in the first record to *your* name, and if instructed to create a printout, print only that record. Save and close the Players form, close the Baseball-C.accdb database, then exit Access.

**FIGURE C-24**

Player Nu	Player First	Player Last	Nicknan	PlayerPhone	Player	Insuran	Unifo	TeamNumb
10013	Student First	Student Last	Student Ni	(816) 927-4638	7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	5
10022	John	Bench	Johnny	(913) 285-7451	6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3
10023	Louie	Brock	Lou	(913) 445-6543	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5
10010	Roy	Campanella	Roy	(913) 252-1321	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1
10024	Abner	Chandler	Abby	(816) 456-2098	6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	7
10033	Robert	Clemente	Bob	(913) 864-2725	9	<input type="checkbox"/>	<input type="checkbox"/>	5
10011	Tyrus	Cobb	Ty	(816) 919-2343	8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3
10034	Jeffrey	Dean	Speedy	(816) 660-2748	5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
10014				(816) 922-2010	5	<input type="checkbox"/>	<input type="checkbox"/>	5

# Using Reports

**CASE**

Samantha Hooper, a tour developer at Quest Specialty Travel, asks you to produce some reports to help her share and analyze data. A report is an Access object that creates a professional looking printout.

## Unit Objectives

After completing this unit, you will be able to:

- Use the Report Wizard
- Use Report Layout View
- Review report sections
- Apply group and sort orders
- Add subtotals and counts
- Resize and align controls
- Format a report
- Create mailing labels

## Files You Will Need

QuestTravel-D.accdb	Recycle-D.accdb
RealEstate-D.accdb	JobSearch-D.accdb
Conventions-D.accdb	Basketball-D.accdb
Membership-D.accdb	

Microsoft® product screenshots used with permission from Microsoft® Corporation.

**Learning Outcomes**

- Create a report with the Report Wizard
- Change page orientation

**STEPS**

# Use the Report Wizard

A **report** is the primary object you use to print database content because it provides the most formatting, layout, and summary options. A report may include various fonts and colors, clip art and lines, and multiple headers and footers. A report can also calculate subtotals, averages, counts, and other statistics for groups of records. You can create reports in Access by using the **Report Wizard**, a tool that asks questions to guide you through the initial development of the report. Your responses to the Report Wizard determine the record source, style, and layout of the report. The **record source** is the table or query that defines the fields and records displayed on the report. The Report Wizard also helps you sort, group, and analyze the records. **CASE** *You use the Report Wizard to create a report to display the tours within each state.*

**TROUBLE**

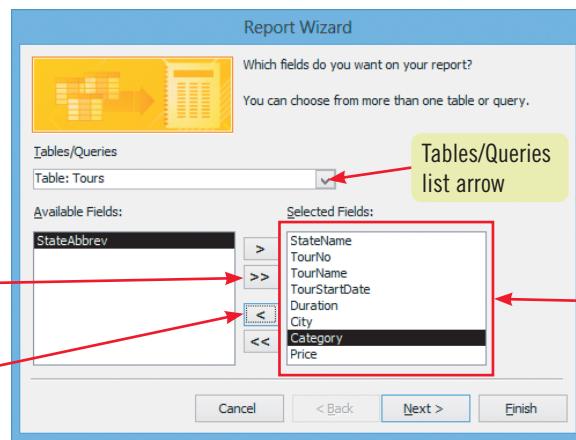
If you select a field by mistake, click the unwanted field in the Selected Fields list, then click the Remove Field button .

**QUICK TIP**

Click Back to review previous dialog boxes within a wizard.

1. Start Access, open the **QuestTravel-D.accdb** database, enable content if prompted, click the **CREATE** tab on the Ribbon, then click the **Report Wizard** button in the Reports group. The Report Wizard starts, prompting you to select the fields you want on the report. You can select fields from one or more tables or queries.
  2. Click the **Tables/Queries list arrow**, click **Table: States**, double-click the **StateName** field, click the **Tables/Queries list arrow**, click **Table: Tours**, click the **Select All Fields** button   click **StateAbbrev** in the **Selected Fields** list, then click the **Remove Field** button  By selecting the StateName field from the States table, and all fields from the Tours table except the StateAbbrev field, you have all of the fields you need for the report, as shown in **FIGURE D-1**.
  3. Click **Next**, then click **by States** if it is not already selected
  4. Click **Next**, click **Next** again to include no additional grouping levels, click the **first sort list arrow**, click **TourStartDate**, then click **Next**
  5. Click the **Stepped option button**, click the **Landscape option button**, click **Next**, type **Tours by State** for the report title, then click **Finish**
  6. Scroll down to see the second grouping section on the report for the state of Colorado, then click the **Next Page** button  in the navigation bar to see the second page of the report
- Even in **landscape orientation** (11" wide by 8.5" tall as opposed to **portrait orientation**, which is 8.5" wide by 11" tall), the fields on the Tours by State report may not fit on one sheet of paper. The labels in the column headings and the data in the columns need to be resized to improve the layout. Depending on your monitor, you might need to scroll to the right to display all the fields on this page.

**FIGURE D-1:** Selecting fields for a report using the Report Wizard



**FIGURE D-2:** Tours by State report in Print Preview

Tours by State						Category	Price
StateName	TourStartDate	TourNo	TourName	City			
California	06/27/2014	22	Perfect Waves	5 Huntington Beach		Adventure	\$500
	07/13/2014	29	Silver Country	14 Sacramento		Educational	\$1,200
	07/13/2014	48	Kings Canyon Bridge	10 Three Rivers		Service	\$950
	07/13/2014	46	Bigfoot Rafting Club	4 Placerville		Adventure	\$455
	07/14/2014	30	Monterey Mysteries	7 Monterey	✉	Educational	\$800
	07/20/2014	47	Yosemite National Pa	3 Sacramento		Service	\$1,100
	07/20/2014	49	Golden State Tours	10 Sacramento		Site Seeing	\$1,400
	07/20/2014	39	Oakland Museum of	7 Oakland		Educational	\$1,000

### Changing page orientation

To change page orientation from Portrait (8.5" wide by 11" tall) to Landscape (11" wide by 8.5" tall) and vice versa, click the Portrait or Landscape button on the PRINT PREVIEW tab when

viewing the report in Print Preview. To switch to Print Preview, right-click the report in the Navigation Pane, and then choose Print Preview on the shortcut menu.

**Learning Outcomes**

- Move and resize controls in Layout View
- Modify labels

**STEPS****TROUBLE**

If the Field List window opens, close it.

# Use Report Layout View

Reports have multiple views that you use for various report-building and report-viewing activities. Although some tasks can be accomplished in more than one view, each view has a primary purpose to make your work with reports as easy and efficient as possible. The different report views are summarized in TABLE D-1. CASE → Samantha Hooper asks you to modify the Tours by State report so that all of the fields fit comfortably across one sheet of paper in landscape orientation.

**QUICK TIP**

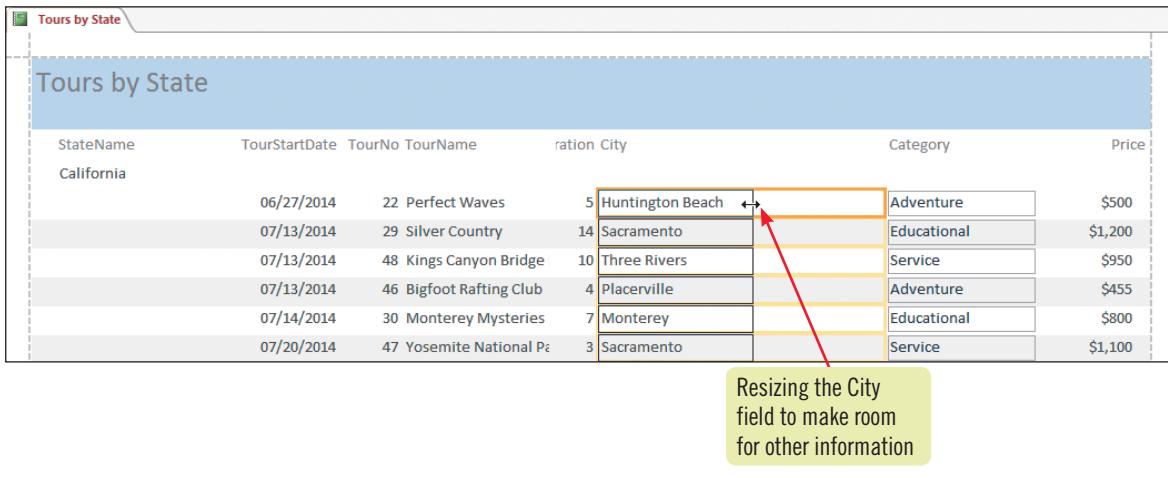
Resizing with instead of moving with maintains the vertical alignment of the controls.

**QUICK TIP**

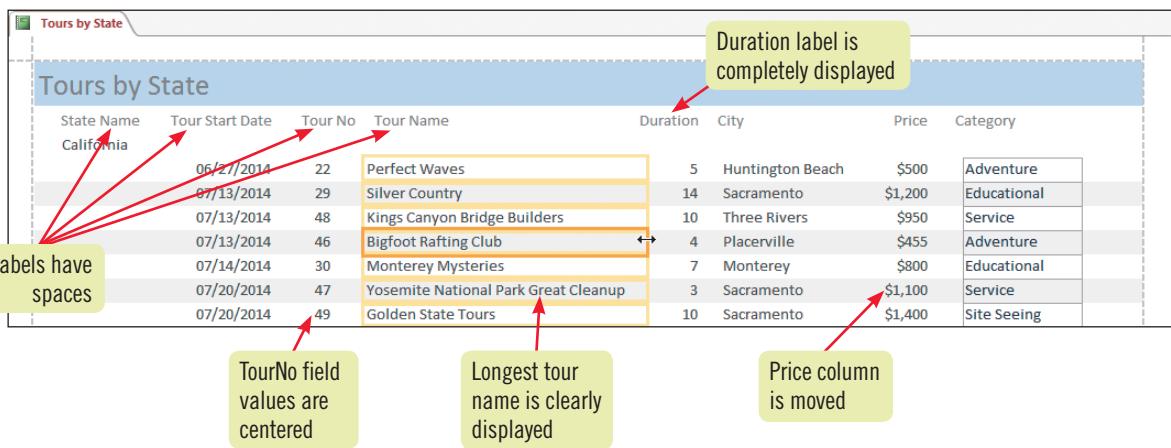
You can use the Undo button arrow to undo many actions in Layout View.

1. Right-click the **Tours by State report tab**, then click **Layout View**  
**Layout View** opens and applies a grid to the report that helps you resize, move, and position controls. You decide to narrow the City column to make room for the Price data.
2. Click **Huntington Beach** (or any value in the City column), then use the pointer to drag the right edge of the City column to the left to narrow it to about half of its current size, as shown in **FIGURE D-3**  
By narrowing the City column, you create extra space in the report.
3. Click **\$500** (or any value in the Price column), use the pointer to drag the Price values to the left of the Category column, click the **Price label**, then use to move the Price label to the left of the Category label  
All the columns are now within the boundaries of a single sheet of paper in landscape orientation. You also notice that centering some data would make it easier to read.
4. Click **22** (or any value in the TourNo column), click the **HOME tab**, then click the **Center button** in the **Text Formatting group**  
The TourName column needs more space to completely display the tour names.
5. Use to resize both sides of the **TourStartDate**, **TourNo**, and **TourName columns** and their labels to the left, then use to resize the **Category**, **Price**, **City**, and **Duration columns** and their labels to the right  
Now the report has enough room to resize the TourName column and the Duration label.
6. Resize the **TourName column** so that all of the data is visible, paying special attention to the longest value, Yosemite National Park Great Cleanup, then resize the **Duration label** to display the complete text  
You can also rename labels in Report Layout View.
7. Click the **StateName label**, click between the words **State** and **Name**, press the **[Spacebar]** so that the label reads **State Name**, then modify the **TourStartDate**, **TourNo**, and **TourName labels** to contain spaces as well
8. Continue resizing the columns so that all of the data is visible and your report looks like **FIGURE D-4**

**FIGURE D-3:** Modifying the column width in Report Layout View



**FIGURE D-4:** Final Tours by State report in Report Layout View



**TABLE D-1:** Report views

view	primary purpose
Report View	To quickly review the report without page breaks
Print Preview	To review each page of an entire report as it will appear if printed
Layout View	To modify the size, position, or formatting of controls; shows live data as you modify the report, making it the tool of choice when you want to change the appearance and positioning of controls on a report while also reviewing live data
Design View	To work with report sections or to access the complete range of controls and report properties; Design View does not display data

**Learning Outcomes**

- Navigate through report sections and pages
- Resize the width of the report
- Work with error indicators

**STEPS**

Report **sections** determine where and how often controls in that section print in the final report. For example, controls in the Report Header section print only once at the beginning of the report, but controls in the Detail section print once for every record the report displays. **TABLE D-2** describes report sections. **CASE** You and Samantha Hooper preview the Tours by State report to review and understand report sections.

1. Right-click the **Tours by State tab**, click **Print Preview**, then scroll up and click the light blue bar at the top of the report if you need to zoom in to display the first page of the report, as shown in **FIGURE D-5**

The first page shows four sections: Report Header, Page Header, StateAbbreviation Header, and Detail.

2. Click the **Next Page button** on the navigation bar to move to the second page of the report

If the second page of the report does not contain data, it means that the report may be too wide to fit on a single sheet of paper. You fix that problem in Report Design View.

3. Right-click the **Tours by State tab**, click **Design View**, scroll to the far right using the bottom horizontal scroll bar, then use the pointer to drag the **right edge of the report** as far as you can to the left, as shown in **FIGURE D-6**

In Report Design View, you can work with the report sections and make modifications to the report that you cannot make in other views, such as narrowing the width. Report Design View does not display any data, though. For your report to fit on one page in landscape orientation, you need to move all of the controls within the 10.5" mark on the horizontal **ruler** using the default 0.25" left and right margins. You will practice fixing this problem by moving all controls within the 10" mark on the ruler to make sure they all fit on the landscape printout.

4. Use the pointer to drag the **page calculation** about 0.5" to the left, then use to drag the **right edge of the report** as far as you can to the left

To review your modifications, show the report in Print Preview.

**TROUBLE**

Be sure that the right edge of the page calculation is within the 10" mark on the ruler.

**QUICK TIP**

You can also use the View buttons in the lower-right corner of a report to switch views.

5. Right-click the **Tours by State tab**, click **Print Preview**, click to navigate to the last page of the report, then click the report to zoom in and out to examine the page, as shown in **FIGURE D-7**

Previewing each page of the report helps you confirm that no blank pages are created and allows you to examine how the different report sections print on each page.

**TABLE D-2:** Report sections

section	where does this section print?
Report Header	At the top of the first page
Page Header	At the top of every page (but below the Report Header on the first page)
Group Header	Before every group of records
Detail	Once for every record
Group Footer	After every group of records
Page Footer	At the bottom of every page
Report Footer	At the end of the report

**FIGURE D-5:** Tours by State in Print Preview

**Tours by State**

State Name	Tour Start Date	Tour No	Tour Name	Duration	City	Price	Category
California	06/27/2014	22	Perfect Waves	5	Huntington Beach	\$500	Adventure
	07/13/2014	29	Silver Country	14	Sacramento	\$1,200	Educational
	07/13/2014	48	Kings Canyon Bridge Builders	10	Three Rivers	\$950	Service
	07/13/2014	46	Bigfoot Rafting Club	4	Placerville	\$455	Adventure
	07/14/2014	30	Monterey Mysteries	7	Monterey	\$800	Educational
	07/20/2014	47	Yosemite National Park Great Cleanup	3	Sacramento	\$1,100	Service
	07/20/2014	49	Golden State Tours	10	Sacramento	\$1,400	Site Seeing

**FIGURE D-6:** Tours by State report in Design View

**Tours by State**

Report Header

Page Header

StateAbbreviation Header

Detail

Page Footer

Report Footer

Page calculation

10.5" mark on horizontal ruler

**FIGURE D-7:** Last page of Tours by State report in Print Preview

**Tours by State**

Page Header section

Detail section

State name prints once per state

Next Page button

Tuesday, November 27, 2018

Page Footer section

Page 2 of 2

Layout View

Design View

Zoom slider

Report View

Print Preview

**Learning Outcomes**

- Group and sort records in a report
- Copy and paste controls

**STEPS**

# Apply Group and Sort Orders

**Grouping** means to sort records by a particular field *plus* provide a header and/or footer section before or after each group of sorted records. For example, if you group records by the StateName field, the Group Header is called the StateName Header and the Group Footer is called the StateName Footer. The StateName Header section appears once for each state in the report, immediately before the records in that state. The StateName Footer section also appears once for each state in the report, immediately after the records for that state. **CASE** → *The records in the Tours by State report are currently grouped by the StateAbbreviation field. Samantha Hooper asks you to further group the records by the Category field (Adventure, Educational, and Family, for example) within each state.*

1. Click the **Close Print Preview button** to return to Report Design View, then click the **Group & Sort button** in the Grouping & Totals group to open the Group, Sort, and Total pane

Currently, the records are grouped by the StateAbbreviation field and further sorted by the TourStartDate field. To add the Category field as a grouping field within each state, you work with the Group, Sort, and Total pane in Report Design View.

2. Click the **Add a group button** in the Group, Sort, and Total pane, click **Category**, then click the **Move up button**  on the right side of the Group, Sort, and Total pane so that **Category** is positioned between **StateAbbreviation** and **TourStartDate**

A Category Header section is added to Report Design View just below the StateAbbreviation Header section. You move the Category control from the Detail section to the Category Header section so it prints only once for each new Category instead of once for each record in the Detail section.

3. Right-click the **Category combo box** in the Detail section, click **Cut** on the shortcut menu, right-click the **Category Header section**, click **Paste**, then use the  pointer to drag the **Category combo box** to the right to position it as shown in **FIGURE D-8**

Now that you've moved the Category combo box to the Category Header, it will print only once per category within each state. You no longer need the Category label in the Page Header section.

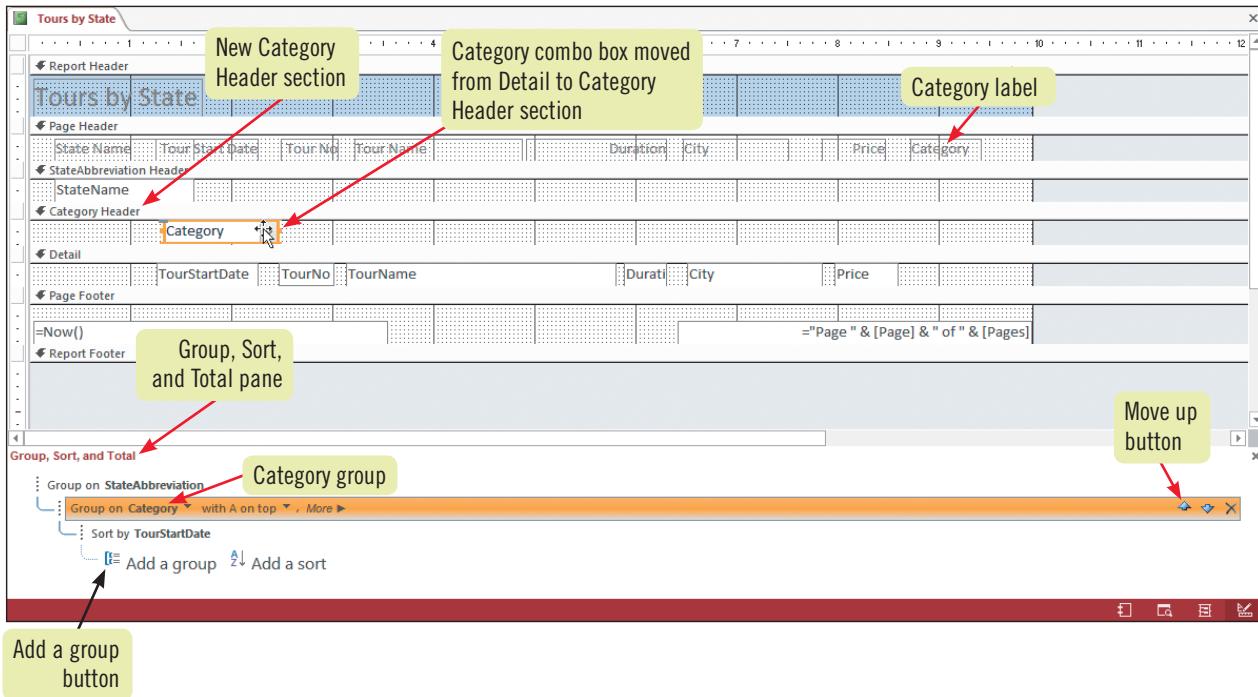
4. Click the **Category label** in the Page Header section, press **[Delete]**, then switch to Print Preview and zoom to 100%

The Tours by State report should look like **FIGURE D-9**. Notice that the records are now grouped by category within state. Detail records are further sorted in ascending order by the tour start date.

**QUICK TIP**

Use the Move up and Move down buttons as needed to make sure your Group, Sort, and Total pane looks exactly like **FIGURE D-8**.

**FIGURE D-8:** Group, Sort, and Total pane and new Category Header section



**FIGURE D-9:** Tours by State report grouped by category within state

The screenshot shows a report titled "Tours by State" with a header section labeled "StateAbbreviation Header section". The main body of the report displays a table of tour details. The table has columns: State Name, Tour Start Date, Tour No, Tour Name, Duration, City, and Price. A "Category" column is included. The data is grouped by state (California) and category (Adventure and Educational). The "Adventure" group contains four records, and the "Educational" group contains eight records. A red arrow points from a callout box labeled "Detail records are sorted by TourStartDate" to the "Tour Start Date" column in the table.

State Name	Tour Start Date	Tour No	Tour Name	Duration	City	Price
California	06/27/2014	22	Perfect Waves	5	Huntington Beach	\$500
	07/13/2014	46	Bigroot Rafting Club	4	Placerville	\$455
	08/19/2014	44	Bear Valley Adventures	3	Sacramento	\$725
	08/26/2014	45	Black Sheep Hiking Club	14	El Dorado Hills	\$525
	07/13/2014	29	Silver Country	14	Sacramento	\$1,200
	07/14/2014	30	Monterey Mysteries	7	Monterey	\$800
	07/20/2014	39	Oakland Museum of Science	7	Oakland	\$1,000
	09/14/2014	37	Cactus Language Exploration	7	San Diego	\$800
	09/21/2014	38	Water Education Foundation	14	Fresno	\$1,300
	09/29/2014	40	Redwood Forest Lab	14	Mill Valley	\$1,500

**Learning Outcomes**

- Create calculations to subtotal and count records
- Cut and paste controls

# Add Subtotals and Counts

In a report, you create a **calculation** by entering an expression into a text box. When a report is previewed or printed, the expression is evaluated and the resulting calculation is placed on the report. An **expression** is a combination of field names, operators (such as +, -, /, and \*), and functions that results in a single value. A **function** is a built-in formula, such as Sum or Count, that helps you quickly create a calculation. Notice that every expression starts with an equal sign (=), and when it uses a function, the arguments for the function are placed in (parentheses). **Arguments** are the pieces of information that the function needs to create the final answer. When an argument is a field name, the field name must be surrounded by [square brackets]. **CASE** → Samantha Hooper asks you to add a calculation to the Tours by State report to sum the total number of tour days within each category and within each state.

## STEPS

### 1. Switch to Report Design View

A logical place to add subtotals for each group is right after that group of records prints, in the Group Footer section. You use the Group, Sort, and Total pane to open Group Footer sections.

**TROUBLE**

Click Category in the Group, Sort, and Total pane to display the grouping options.

### 2. Click the More button for the StateAbbreviation field in the Group, Sort, and Total pane, click the without a footer section list arrow, click with a footer section, then do the same for the Category field, as shown in FIGURE D-10

With the StateAbbreviation Footer and Category Footer sections open, you're ready to add controls to calculate the total number of tour days within each category and within each state. You use a text box control with an expression to make this calculation.

### 3. Click the Text Box button in the Controls group, then click just below the Duration text box in the Category Footer section

Adding a new text box automatically adds a new label to its left. First, you modify the label to identify the information, then you modify the text box to contain the correct expression to sum the number of tour days for that category.

### 4. Click the Text19 label to select it, double-click Text19, type Total days:, click the Unbound text box to select it, click Unbound again, type =Sum([Duration]), press [Enter], then widen the text box to view the entire expression

The expression =Sum([Duration]) uses the Sum function to add the days in the Duration field. Because the expression is entered in the Category Footer section, it will sum all Duration values for that category within that state. To sum the Duration values for each state, the expression needs to be inserted in the StateAbbreviation Footer.

**TROUBLE**

Depending on your activity in Report Design View, you may see a different number in the Text##: label.

**QUICK TIP**

Pasting the expression in the Report Footer section would subtotal the duration values for the entire report.

### 5. Right-click the =Sum([Duration]) text box, click Copy, right-click the StateAbbreviation Footer section, click Paste, then press [→] enough times to position the controls in the StateAbbreviation Footer section just below those in the Category Footer section, as shown in FIGURE D-11

With the expression copied to the StateAbbreviation Footer section, you're ready to preview your work.

### 6. Switch to Print Preview, navigate to the last page of the report, then click to zoom so you can see all of the Washington tours

As shown in FIGURE D-12, 21 tour days are totaled for the Adventure category, and 3 for the Site Seeing category, which is a total of 24 tour days for the state of Washington. The summary data would look better if it were aligned more directly under the tour Duration values. You resize and align controls in the next lesson.

**TROUBLE**

Drag the top edge of all section bars up to eliminate extra blank space in the report.

**FIGURE D-10:** Opening group footer sections

The screenshot shows the 'Tours by State' report in Microsoft Access. It includes a header, detail, and footer section for categories and state abbreviations. A 'More/Less' button is used to control the visibility of group footers. Callouts highlight the 'Category Footer section' and 'StateAbbreviation Footer section' in the footer area, as well as the 'Duration text box' in the detail section and the 'More/Less button'.

**FIGURE D-11:** Adding subtotals to group footer sections

The screenshot shows the 'Tours by State' report in Microsoft Access after adding subtotals. New text boxes with expressions like '=Sum([Duration])' are added to calculate totals for each category and the overall state total. Callouts point to these new labels and text boxes.

**FIGURE D-12:** Previewing the new group footer calculations

Washington						
Adventure						
05/05/2014	53	Salmon Run Fishing	4	Seattle	\$800	
08/01/2014	54	Northwest Passage	10	Vancouver	\$2,000	
03/13/2015	7	Spare Tire Ski Club	7	Monmouth	\$600	
				Total days:	21	Sum of Duration for each Category
Site Seeing						
07/04/2014	55	Space Needle Fireworks	3	Seattle	\$500	
				Total days:	3	Sum of Duration for Washington
				Total days:	24	

**Learning Outcomes**

- Align data within a control
- Align the borders of controls

**STEPS****QUICK TIP**

You can also use the buttons on the FORMAT tab to align and format text, including applying number formats and increasing or decreasing decimals.

**TROUBLE**

If you make a mistake, click the Undo button  on the Quick Access toolbar.

# Resize and Align Controls

After you add information to the appropriate section of a report, you might also want to align the data in precise columns and rows to make the information easier to read. To do so, you can use two different types of **alignment** commands. You can left-, right-, or center-align a control *within its own border* using the Align Left , Center , and Align Right  buttons on the HOME tab. You can also align the edges of controls *with respect to one another* using the Left, Right, Top, and Bottom commands on the Align button of the ARRANGE tab in Report Design View. **CASE** → You decide to resize and align several controls to improve the readability of the Tours by State report. Layout View is a good choice for these tasks.

1. Switch to Layout View, click the DESIGN tab on the Ribbon, then click the **Group & Sort button** to toggle off the Group, Sort, and Total pane

You decide to align the expressions that subtotal the number of tour days for each category within the Duration column.

2. Click the **Total days text box** in the Category Footer, click the HOME tab, click the **Align Right button**  in the Text Formatting group, then use the  pointer to resize the text box so that the data is aligned in the Duration column, as shown in FIGURE D-13

With the calculation formatted as desired in the Category Footer, you can quickly apply those modifications to the calculation in the StateAbbreviation Footer as well.

3. Scroll down the report far enough to find and then click the **Total days text box** in the StateAbbreviation Footer, click , then use the  pointer to resize the text box so that it is the same width as the text box in the Category Footer section

With both expressions right-aligned and resized so they line up under the Duration values in the Detail section, they are easier to read on the report.

4. Scroll the report so you can see all of the Colorado tours, as shown in FIGURE D-14

You can apply resize, alignment, or formatting commands to more than one control at a time. TABLE D-3 provides techniques for selecting more than one control at a time in Report Design View.

**Precisely moving and resizing controls**

You can move and resize controls using the mouse or other pointing device, but you can move controls more precisely using the keyboard. Pressing the arrow keys while holding [Ctrl] moves

selected controls one pixel (picture element) at a time in the direction of the arrow. Pressing the arrow keys while holding [Shift] resizes selected controls one pixel at a time.

**FIGURE D-13:** Resizing controls in Layout View

The screenshot shows a Microsoft Access report titled "Tours by State". The report lists tours for the state of California. A "Total days" text box is present in the report. A yellow callout box labeled "Total days text box" points to this text box. A second yellow callout box labeled "Align Right" points to the "Align Right" button in the ribbon's Text Formatting group. A red arrow points from the "Total days" text box to the "Align Right" button.

State Name	Tour Start Date	Tour No	Tour Name	Duration	City	Price
California						
Adventure						
	06/27/2014	22	Perfect Waves	5	Huntington Beach	\$500
	07/13/2014	46	Bigfoot Rafting Club	4	Placerville	\$455
	08/19/2014	44	Bear Valley Adventures	3	Sacramento	\$725
	08/26/2014	45	Black Sheep Hiking Club	14	El Dorado Hills	\$525
Educational				14	Sacramento	\$1,200
	07/13/2014	29	Silver Country			

**FIGURE D-14:** Reviewing the aligned and resized controls

The screenshot shows a Microsoft Access report titled "Colorado". The report lists tours for the state of Colorado, categorized by type (Adventure and Family). Two "Total days" text boxes are highlighted with yellow borders. Red arrows point from these text boxes to a callout labeled "Data is right-aligned and text boxes are resized".

Colorado						
Adventure						
06/19/2014	18	Eagle Hiking Club	7	Aspen	\$695	
06/29/2014	20	Team Discovery	5	Breckenridge	\$550	
01/02/2015	3	Ames Ski Club	7	Breckenridge	\$850	
01/13/2015	4	Boy Scout Jamboree	7	Vail	\$1,900	
02/15/2015	5	Bridgewater Country	10	Aspen	\$1,200	
Total days:					36	
Family						
03/11/2015	6	Franklin Family Reunion	3	Breckenridge	\$700	
Total days:					3	
Total days:					39	

**TABLE D-3:** Selecting more than one control at a time in Report Design View

technique	description
Click, [Shift]+click	Click a control, then press and hold [Shift] while clicking other controls; each one is selected
Drag a selection box	Drag a selection box (an outline box you create by dragging the pointer in Report Design View); every control that is in or is touched by the edges of the box is selected
Click in the ruler	Click in either the horizontal or vertical ruler to select all controls that intersect the selection line
Drag in the ruler	Drag through either the horizontal or vertical ruler to select all controls that intersect the selection line as it is dragged through the ruler

**Learning Outcomes**

- Format controls and sections of a report
- Add labels to a report

**STEPS****QUICK TIP**

The quick keystroke for Undo is [Ctrl][Z].  
The quick keystroke for Redo is [Ctrl][Y].

# Format a Report

**Formatting** refers to enhancing the appearance of the information. **TABLE D-4** lists several of the most popular formatting commands found on the FORMAT tab when you are working in Layout or Report Design View. Although the Report Wizard automatically applies many formatting embellishments, you often want to change the appearance of the report to fit your particular needs. **CASE** *When reviewing the Tours by State report with Samantha, you decide to change the background color of some of the report sections to make the data easier to read. Your first change will be to shade each Category Header and Footer section (rather than alternating sections, the format initially provided by the Report Wizard). To make changes to entire report sections, you work in Report Design View.*

1. Switch to Design View, click the **Category Header section bar**, click the **FORMAT tab** on the Ribbon, click the **Alternate Row Color button arrow**, click **No Color**, click the **Shape Fill button**, then click the **Maroon 2 color square**, as shown in **FIGURE D-15**

Make a similar modification by applying a different fill color to the Category Footer section.

2. Click the **Category Footer section bar**, click the **Alternate Row Color button arrow**, click **No Color**, click the **Shape Fill button**, then click the **Green 2 color square** (just to the right of Maroon 2 in the Standard Colors section)

When you use the Alternate Row Color and Shape Fill buttons, you're actually modifying the **Back Color** and **Alternate Back Color** properties in the Property Sheet of the section or control you selected. Background shades can help differentiate parts of the report, but be careful with dark colors as they may print as solid black on some printers and fax machines.

3. **Switch to Layout View to review your modifications**

The category sections are clearer, but you decide to make one more modification to emphasize the report title.

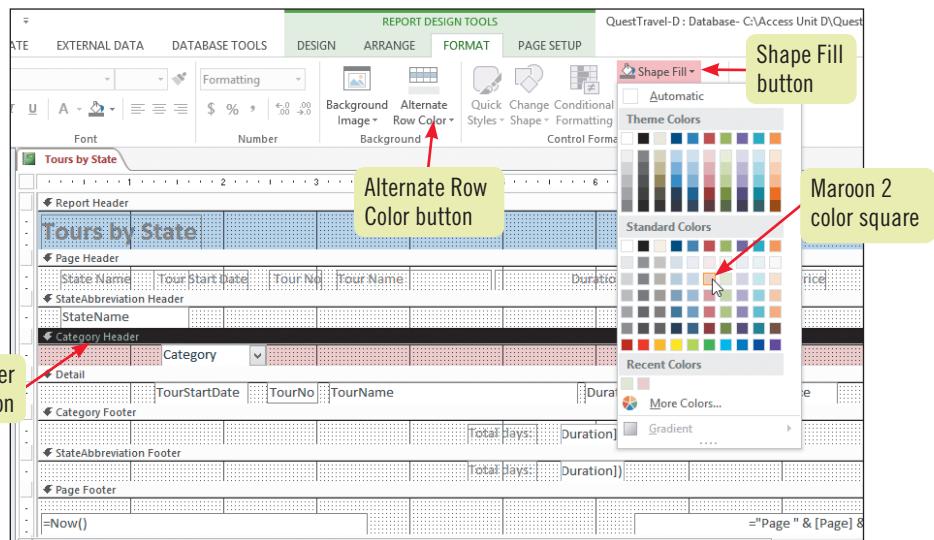
4. Click the **Tours by State label** in the Report Header section, click the **HOME tab**, then click the **Bold button**  in the Text Formatting group

The report in Layout View should look like **FIGURE D-16**. You also want to add a label to the Report Footer section to identify yourself.

5. Switch to Report Design View, drag the **bottom edge of the Report Footer** down about 0.5", click the **Label button**  in the Controls group, click at the **1" mark** in the Report Footer, type **Created by your name**, press **[Enter]**, click the **HOME tab**, then click  in the Text Formatting group

6. Save and preview the Tours by State report

7. If required by your instructor, print the report, and then close it

**FIGURE D-15:** Formatting section backgrounds**FIGURE D-16:** Final formatted Tours by State report

State Name	Tour Start Date	Tour No	Tour Name	Duration	City	Price
California						
	Adventure					
	06/27/2014	22	Perfect Waves	5	Huntington Beach	\$500
	07/13/2014	46	Bigfoot Rafting Club	4	Placerville	\$455
	08/19/2014	44	Bear Valley Adventures	3	Sacramento	\$725
	08/26/2014	45	Black Sheep Hiking Club	14	El Dorado Hills	\$525
			Total days:	26		
	Educational					
	07/13/2014	29	Silver Country	14	Sacramento	\$1,200
	07/14/2014	30	Monterey Mysteries	7	Monterey	\$800
	07/20/2014	39	Oakland Museum of Science	7	Oakland	\$1,000
	09/14/2014	37	Cactus Language Exploration	7	San Diego	\$800
	09/21/2014	38	Water Education Foundation	14	Fresno	\$1,400
	09/29/2014	40	Redwood Forest Lab	14	Mill Valley	\$1,500
			Total days:	63		

**TABLE D-4:** Useful formatting commands

button	button name	description
	<b>Bold</b>	Toggles bold on or off for the selected control(s)
	<b>Italic</b>	Toggles italic on or off for the selected control(s)
	<b>Underline</b>	Toggles underline on or off for the selected control(s)
	<b>Align Left</b>	Left-aligns the selected control(s) within its own border
	<b>Center</b>	Centers the selected control(s) within its own border
	<b>Align Right</b>	Right-aligns the selected control(s) within its own border
	<b>Background Color or Shape Fill</b>	Changes the background color of the selected control(s)
	<b>Alternate Row Color</b>	Changes the background color of alternate records in the selected section
	<b>Font Color</b>	Changes the text color of the selected control(s)
	<b>Shape Outline</b>	Changes the border color of the selected control(s)
	<b>Line Thickness option</b>	Changes the border style of the selected control(s)
	<b>Line Type option</b>	Changes the special visual effect of the selected control(s)

**Learning Outcomes**

- Create a report of labels
- Print specific pages of a report

**STEPS**

# Create Mailing Labels

Mailing labels are often created to apply to envelopes, postcards, or letters when assembling a mass mailing. They have many other business purposes too, such as applying them to paper file folders or name tags. Any data in your Access database can be converted into labels using the **Label Wizard**, a special report wizard that precisely positions and sizes information for hundreds of standard business labels. **CASE** → Samantha Hooper asks you to create mailing labels for all of the addresses in the *Customers* table. You use the Label Wizard to handle this request.

1. Click the **Customers table** in the Navigation Pane, click the **CREATE tab**, then click the **Labels button** in the Reports group

The first Label Wizard dialog box opens. The Filter by manufacturer list box provides over 30 manufacturers of labels. Because Avery is the most common, it is the default choice. With the manufacturer selected, your next task is to choose the product number of the labels you will feed through the printer. The cover on the box of labels you are using provides this information. In this case, you'll be using Avery 5160 labels, a common type of sheet labels used for mailings and other purposes.

2. Scroll through the Product number list, then click **5160** (if not already selected), as shown in **FIGURE D-17**

Note that by selecting a product number, you also specify the dimensions of the label and number of columns.

3. Click **Next**, then click **Next** again to accept the default font and color choices

The third question of the Label Wizard asks how you want to construct your label. You'll add the fields from the *Customers* table with spaces and line breaks to pattern a standard mailing format.

4. Double-click **FName**, press **[Spacebar]**, double-click **LName**, press **[Enter]**, double-click **Street**, press **[Enter]**, double-click **City**, type a **comma (,)** and press **[Spacebar]**, double-click **State**, press **[Spacebar]**, then double-click **Zip**

If your prototype label doesn't look exactly like **FIGURE D-18**, delete the fields in the Prototype label box and try again. Be careful to put a space between the **FName** and **LName** fields in the first row, a comma and a space between the **City** and **State** fields, and a space between the **State** and **Zip** fields.

5. Click **Next**, double-click **LName** to select it as a sorting field, click **Next**, click **Finish** to accept the name **Labels Customers** for the new report, then click **OK** if prompted that some data may not be displayed

A portion of the new report is shown in **FIGURE D-19**. It is generally a good idea to print the first page of the report on standard paper to make sure everything is aligned correctly before printing on labels.

6. If requested by your instructor, click the **Print button** on the **PRINT PREVIEW tab**, click the **From box**, type **1**, click the **To box**, type **1**, then click **OK** to print the first page of the report

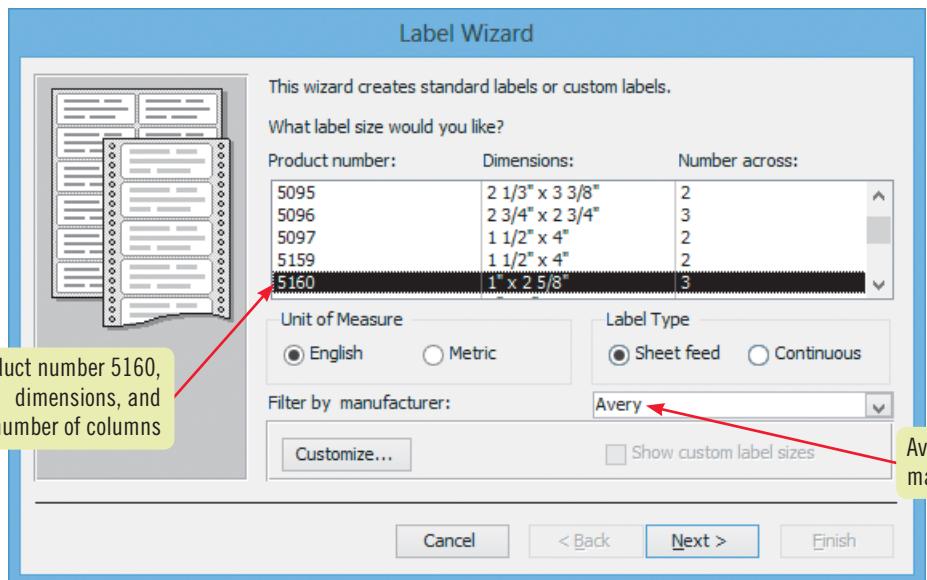
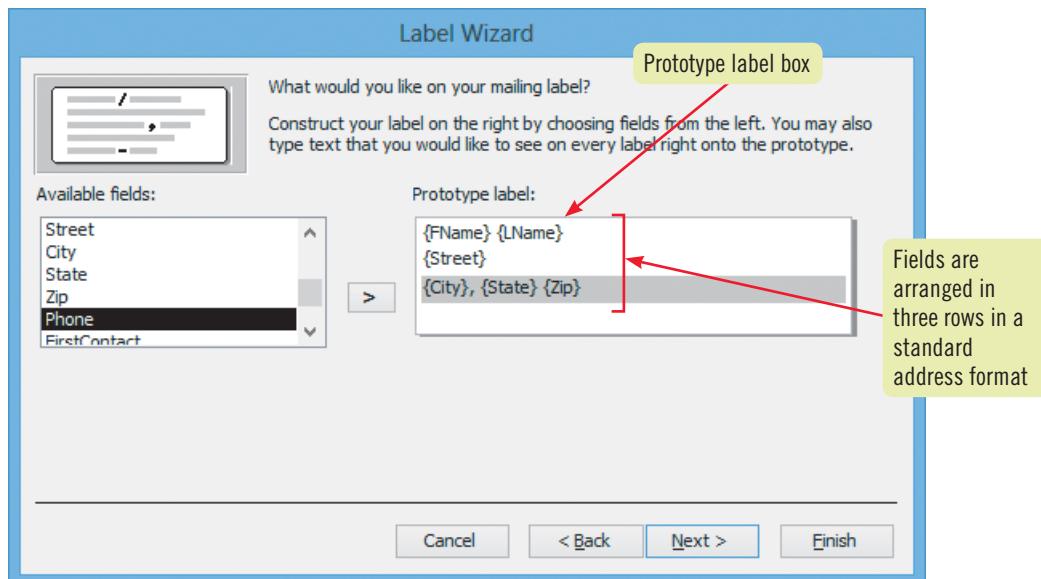
7. Close the **Labels Customers** report, close the **QuestTravel-D.accdb** database, then exit **Access 2013**

**QUICK TIP**

In this case, all data is displayed. This message reminds you to carefully preview the data to make sure long names and addresses fully display within the constraints of the 5160 label dimensions.

**QUICK TIP**

To include your name on the printout, change Aaron Alito's name to your own name in the *Customers* table, then close and reopen the *Labels Customers* report.

**FIGURE D-17:** Label Wizard dialog box**FIGURE D-18:** Building a prototype label**FIGURE D-19:** Labels Customers report

Aaron Alito 5989 Washington Ave Hollister, MO 67827	Jacob Alman 2505 McGee St Des Moines, IA 50288	Madison Bonocore 57 West 159th St Cushing, PA 87087
Julia Bouchart 5200 Main St Kansas City, MO 64105	Samantha Braven 600 Elm St Olathe, KS 66031	Daniel Cabriella 52520 W. 505 Ter Lenexa, KS 66215
Tom Camel 520 W 52nd St Kansas City, KS 64105	Kristen Collins 520 W 52nd St Kansas City, KS 64105	Nancy Diverman 466 Lincoln Rd Kansas City, MO 64105

Data is merged to a three-column Avery 5160 label format

# Practice

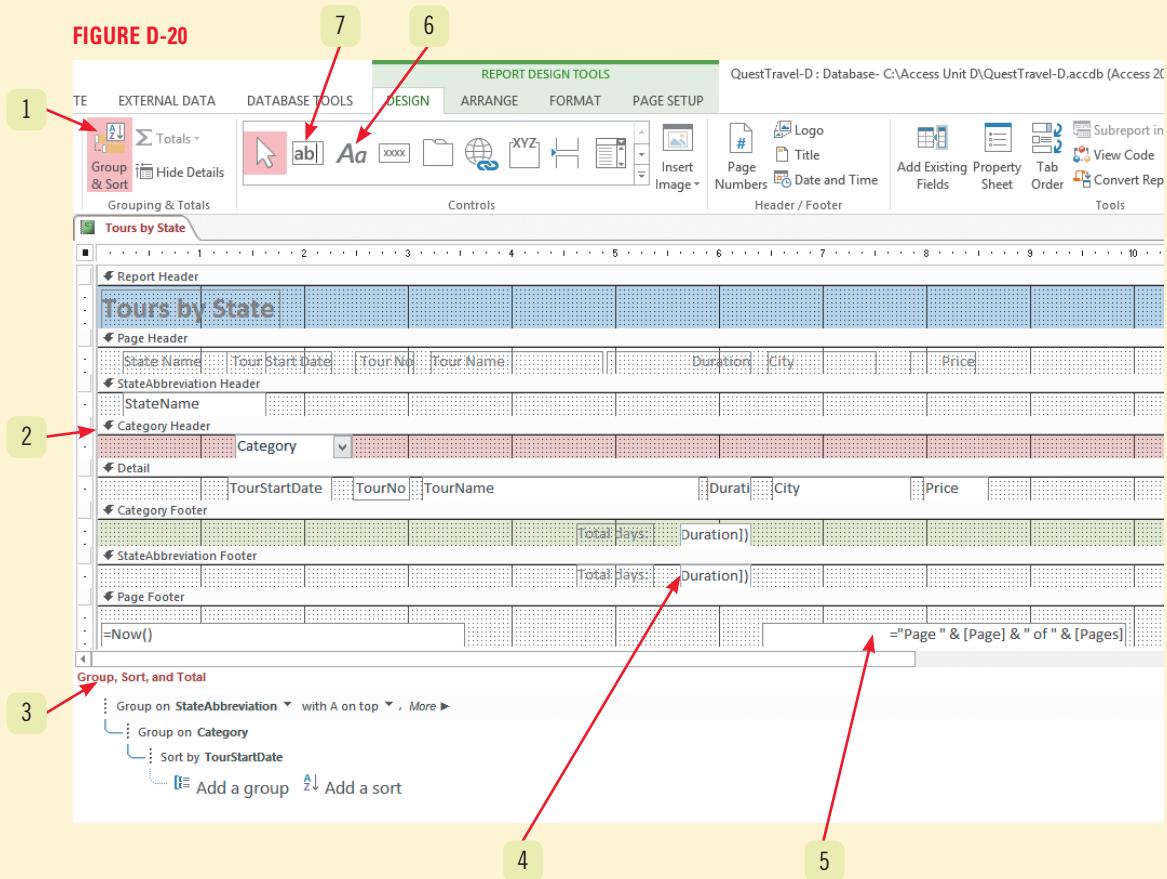
## Concepts Review



Put your skills into practice with SAM Projects! SAM Projects for this unit can be found online. If you have a SAM account, go to [www.cengage.com/sam2013](http://www.cengage.com/sam2013) to download the most recent Project Instruction and Start Files.

**Label each element of the Report Design View window shown in FIGURE D-20.**

**FIGURE D-20**



**Match each term with the statement that best describes it.**

- |                           |  |
|---------------------------|--|
| <b>8. Alignment</b>       | a. Left, center, or right are common choices   |
| <b>9. Expression</b>      | b. Prints once for every record  |
| <b>10. Grouping</b>       | c. Used to identify which fields and records are passed to the report                    |
| <b>11. Section</b>        | d. Sorting records <i>plus</i> providing a header or footer section                      |
| <b>12. Detail section</b> | e. Determines how controls are positioned on the report                                  |
| <b>13. Formatting</b>     | f. A combination of field names, operators, and functions that results in a single value |
| <b>14. Record source</b>  | g. Enhancing the appearance of information displayed in the report                       |

**Select the best answer from the list of choices.**

**15. Which of the following is *not* a valid report view?**

- a. Print Preview
- b. Section View
- c. Layout View
- d. Design View

**16. Which type of control is most commonly placed in the Detail section?**

- a. Image
- b. Line
- c. Text box
- d. Label

**17. A title for a report would most commonly be placed in which report section?**

- a. Group Footer
- b. Detail
- c. Report Header
- d. Report Footer

**18. A calculated expression that presents page numbering information would probably be placed in which report section?**

- a. Report Header
- b. Detail
- c. Group Footer
- d. Page Footer

**19. Which of the following expressions counts the number of records using the FirstName field?**

- a. =Count([FirstName])
- b. =Count[FirstName]
- c. =Count((FirstName))
- d. =Count{FirstName}

**20. To align the edges of several controls with each other, you use the alignment commands on the:**

- a. FORMATTING tab.
- b. DESIGN tab.
- c. PRINT PREVIEW tab.
- d. ARRANGE tab.

# Skills Review

## 1. Use the Report Wizard.

- a. Start Access and open the RealEstate-D.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Use the Report Wizard to create a report based on the RLast and RPhone fields from the Realtors table, and the Type, SqFt, BR, Bath, and Asking fields from the Listings table.
- c. View the data by Realtors, do not add any more grouping levels, and sort the records in descending order by the Asking field. (*Hint:* Click the Ascending button to toggle it to Descending.)
- d. Use a Stepped layout and a Landscape orientation. Title the report **Realtor Listings**.
- e. Preview the first and second pages of the new report.

## 2. Use Report Layout View.

- a. Switch to Layout View and close the Field List and Property Sheet if they are open.
- b. Narrow the RLast, RPhone, and Bath columns enough so they are only as wide as needed to display all data.
- c. Modify the RLast label to read **Realtor**, the RPhone label to read **Phone**, the SqFt label to read **Square Feet**, the BR label to read **Bedrooms**, and the Bath label to read **Baths**.
- d. Switch to Print Preview to review your changes.

## 3. Review report sections.

- a. Switch to Report Design View.
- b. Drag the text box that contains the Page calculation in the lower-right corner of the Page Footer section to the left so that it is to the left of the 9" mark on the horizontal ruler.
- c. Drag the right edge of the entire report to the left so it ends within the 10" mark on the horizontal ruler. You may need to move or narrow the Baths label and Bath text box more than you did in Step 2b in order to accomplish this.

## 4. Apply group and sort orders.

- a. Open the Group, Sort, and Total pane.
- b. Add the Type field as a grouping field between the RealtorNo grouping field and Asking sort field. Make sure the sort order on the Asking field is in descending order (from largest to smallest).
- c. Cut and paste the Type combo box from its current position in the Detail section to the Type Header section.
- d. Move the Type combo box in the Type Header section so its left edge is at about the 1" mark on the horizontal ruler.
- e. Delete the Type label in the Page Header section.
- f. Switch to Layout View, and resize the Asking, Square Feet, Bedrooms, and Baths columns as needed so they are more evenly spaced across the page.

## 5. Add subtotals and counts.

- a. Switch to Report Design View, then open the RealtorNo Footer section.
- b. Add a text box control to the RealtorNo Footer section, just below the Asking text box in the Detail section. Change the label to read **Subtotal:**, and enter the expression **=Sum([Asking])** in the text box.
- c. Drag the bottom edge of the Report Footer down about 0.25" to add space to the Report Footer.
- d. Copy and paste the new expression in the RealtorNo Footer section to the Report Footer section. Position the new controls in the Report Footer section directly below the controls in the RealtorNo Footer section.
- e. Modify the Subtotal: label in the Report Footer section to read **Grand Total:**.
- f. Preview the last page of the report to view the new subtotals in the RealtorNo Footer and Report Footer sections.

## 6. Resize and align controls.

- a. Switch to Layout View, click the Group & Sort button on the DESIGN tab to close the Group, Sort, and Total pane if it is open, and move to the last page of the report to view the Subtotal and Grand Total calculations at the same time.
- b. Right-align the text within the Subtotal and Grand Total labels.

## Skills Review (continued)

- c. Switch to Design View, click the Asking text box, press and hold [Shift], and then click the text box in the RealtorNo and also the Report Footer sections to select all three text boxes at the same time. Click the ARRANGE tab, click the Align button, then click Right to right-align the edges of the Subtotal and Grand Total text boxes.
- d. With all three text boxes still selected, click the FORMAT tab on the Ribbon, click the Apply Comma Number Format button, and click the Decrease Decimals button twice.
- e. Preview the report to view the alignment and format on the Asking data and subtotals.

### 7. Format a report.

- a. In Report Design View, change the Alternate Row Color of the Detail section to No Color.
- b. Change the Alternate Row Color of the Type Header section as well as the RealtorNo Header section to No Color.
- c. Change the Shape Fill color of the RealtorNo Header section to Green 2.
- d. Select the RLast text box in the RealtorNo Header section, and change the Shape Fill color to Green 2 to match the RealtorNo Header section. Apply the Green 2 background color to the RPhone text box as well.
- e. Bold the title of the report, the **Realtor Listings** label in the Report Header, and resize it to make it a little wider to accommodate the bold text.
- f. Change the font color of each label in the Page Header section to black.
- g. Save and preview the report in Report View. It should look like **FIGURE D-21**. The report should fit on two pages and the grand total for all Asking values should be 7,771,513. If there are blank pages between printed pages, return to Report Design View and drag the right edge of the report to the left.
- h. In Report Design View, add a label to the left side of the Report Footer section with your name.
- i. Return to Print Preview, print the report if requested by your instructor, then save and close the Realtor Listings report.

### 8. Create mailing labels.

- a. Click the Agencies table in the Navigation Pane, then start the Label Wizard.
- b. Choose Avery 5160 labels and the default text appearance choices.
- c. Build a prototype label with the AgencyName on the first line, Street on the second line, and City, State, and Zip on the third line with a comma and space between City and State, and a space between State and Zip.
- d. Sort by AgencyName, and name the report **Labels Agencies**.
- e. Preview then save and close the report. Click OK if a warning dialog box appears regarding horizontal space. The data in your label report does not exceed the dimensions of the labels.
- f. If your instructor asks you to print the Labels Agencies report, open the Agencies table and change the name of Four Lakes Realtors to **Your LastName Realtors**. Close the Agencies table, reopen the Labels Agencies report, then print it.
- g. Close the Labels Agencies report, close the RealEstate-D.accdb database, then exit Access 2013.

FIGURE D-21

Realtor Listings						
Realtor	Phone	Asking	Square Feet	Bedrooms	Baths	
King	555-222-8877					
Cabin		222,000	1900	3	1	
Mobile Home		129,000	1200	3	2	
New		345,000	2800	3	2.5	
Ranch		305,000	3000	2	3	
		475,000	3400	4	4	
		395,000	2000	3	3.5	
		375,000	3000	3	2.5	
		290,000	2000	3	3	
		220,000	1215	3	2	
		2,756,000				
Kirkpatrick	555-111-9900					
Cabin		185,000	1200	4	3	
Ranch		395,615	2200	3	3	
Two Story		274,000	2500	3	2.5	
		302,000	1800	3	3	
		275,000	3000	4	4	
		1,431,615				
Polar	555-333-3344					
Two Story		550,000	5500	4	2.5	
		385,000	2500	3	2	
		288,000	3000	4	3	

## Independent Challenge 1

As the office manager of an international convention planning company, you have created a database to track convention, enrollment, and company data. Your goal is to create a report of up-to-date attendee enrollments.

- a. Start Access, then open the Conventions-D.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Use the Report Wizard to create a report with the AttendeeFirst and AttendeeLast fields from the Attendees table, the CompanyName field from the Companies table, and the ConventionName and CountryName from the Conventions table.
- c. View your data by Conventions, do not add any more grouping levels, and sort in ascending order by CompanyName, then AttendeeLast.
- d. Use the Block layout and Portrait orientation, then name the report **Convention Listing**.
- e. In Layout View, change the labels in the Page Header section from ConventionName to **Convention** and AttendeeLast to **Attendee**. Delete the CountryName, CompanyName, and AttendeeFirst labels in the Page Header section.
- f. In Report Design View, open the Group, Sort, and Total pane, then open the CompanyName Header and CompanyName Footer sections.
- g. In Report Design View, expand the ConventionNo Header section about 0.25", then use the Cut and Paste commands to move the ConventionName text box from the Detail section to the left edge of the ConventionNo Header section.
- h. Cut and paste the CountryName text box from the Detail section to the ConventionNo Header section. Move it to the right of the ConventionName text box.
- i. Drag the top edge of the CompanyName Header section up to remove any extra blank space in the ConventionNo Header section.
- j. Cut and paste the CompanyName text box from the Detail section to the CompanyName Header section. Move it to the right of the ConventionName text box in the ConventionNo Header section and to the left of the AttendeeLast text box in the Detail section.
- k. Remove any extra blank space in the CompanyName Header section by dragging the top edge of the Detail section up as far as possible. Close the Group, Sort, and Total pane.
- l. In Layout View, scroll through the entire report and resize the ConventionName, CountryName, and CompanyName text boxes as needed to show all of the data. Be careful, however, to not expand the report beyond the width of the portrait orientation of the report.
- m. In Design View, expand the CompanyName Footer about 0.5", and add a new text box positioned below the AttendeeLast text box in the Detail section. Modify the new label in the Company Name Footer to read **Count**: Enter an expression in a new text box to count the values in the AttendeeLast field, **=Count([AttendeeLast])**.
- n. Format the text color of the Count: label to black and right-align the text within the label.
- o. Change the color of the report title and the labels in the Page Header section to black. Preview the report. The subtotal count for the first convention should be 21.
- p. Add a label with your name to the right side of the Report Header section, then print the first page if required by your instructor.
- q. Save and close the Convention Listing report, close the Conventions-D.accdb database, then exit Access 2013.

## Independent Challenge 2

You have built an Access database to track membership in a community service club. The database tracks member names and addresses as well as their status and rank in the club, and their hours of service to the community.

- a. Start Access and open the Membership-D.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Open the Members table, find and change the name of Traci Kalvert to *your* name, then close the Members table.
- c. Use the Report Wizard to create a report using the Status and DuesOwed fields from the Status table, and the FName, LName, and DuesPaid fields from the Members table.
- d. View the data by Status. Do not add any more grouping fields, and sort the records in ascending order by LName then FName.
- e. Use a Stepped layout and Portrait orientation, title the report **Dues Report**, then preview the report.
- f. Switch to Report Design View, then use the Group, Sort, and Total pane to open the StatusNo Footer section.
- g. Add a text box to the StatusNo Footer section, just below the DuesPaid text box in the Detail section. Change the label to **Count:** and the expression in the text box to **=Count([DuesPaid])**.
- h. Expand the StatusNo Footer section to provide more space, and add a second text box to the StatusNo Footer section, just below the first. Change the label to **Subtotal:** and the expression in the text box to **=Sum([DuesPaid])**.
- i. Expand the StatusNo Footer section to provide more space, and add a third text box to the StatusNo Footer section, just below the second. Change the accompanying label to **Balance:**
- j. Change the text box expression to **=Count([DuesPaid])\*[DuesOwed]-Sum([DuesPaid])**. This expression counts the number of values in the DuesPaid field, and multiplies it by the DuesOwed field. From that value, the sum of the DuesPaid field is subtracted. This calculates the balance between dues owed and dues paid.
- k. Open the Property Sheet for the **=Sum([DuesPaid])** text box. On the Format tab, set the Format property to **Currency** and the Decimal Places property to **2**. Repeat these property changes for the text box with the balance calculation.
- l. Select the DuesPaid text box in the Detail section, press and hold [Shift], then select all three text boxes in the StatusNo Footer section. Align the right edges of all four controls using the Align button, then Right command on the ARRANGE tab of the Ribbon. Also, right-align the contents within the text boxes of the StatusNo Footer section using the Align Right button on the HOME tab of the Ribbon. Right-align the right edges of the three new labels in the StatusNo Footer section.
- m. Save, then preview the Dues Report. Make sure the report does not contain blank pages and fix that in Report Design View if needed. Print the first page of the Dues Report if requested by your instructor. The StatusNo Footer section for the first status, New, is shown in **FIGURE D-22**.
- n. Close the Dues Report, close the Membership-D.accdb database, then exit Access.

**FIGURE D-22**

Count:	<input type="text" value="7"/>
Subtotal:	<input type="text" value="\$375.00"/>
Balance:	<input type="text" value="\$325.00"/>

## Independent Challenge 3

You have built an Access database to organize the deposits at a recycling center. Various clubs regularly deposit recyclable material, which is measured in pounds when the deposits are made.

- a. Start Access and open the Recycle-D.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Open the Centers table, change **Trash Can** to **Your Last Name Recycling**, then close the table.
- c. Use the Report Wizard to create a report with the CenterName field from the Centers table, the DepositDate and Weight fields from the Deposits table, and the ClubName field from the Clubs table.
- d. View the data by Centers, do not add any more grouping levels, and sort the records in ascending order by DepositDate.
- e. Use a Stepped layout and a Portrait orientation, then title the report **Deposit Listing**.
- f. In Layout View, center the Weight label and Weight data within their controls. Resize the DepositDate label and data by dragging the left edge of the control farther to the left so the label text and all dates are clearly displayed.
- g. Add spaces to the labels so that CenterName becomes **Center Name**, DepositDate becomes **Deposit Date**, and ClubName becomes **Club Name**.
- h. In Report Design View, open the Group, Sort, and Total pane and then open the CenterNumber Footer section.
- i. Add a text box to the CenterNumber Footer section just below the Weight text box with the expression **=Sum([Weight])**.
- j. Rename the new label to be **Total Center Weight** and move and resize it as needed so that it doesn't overlap the text box.
- k. Resize the **=Sum([Weight])** text box in the CenterNumber Footer section to be the same size as the Weight text box in the Detail section. Align the right edges of the Weight text box in the Detail section with the **=Sum([Weight])** text box in the CenterNumber Footer section. Center the data in the **=Sum([Weight])** text box.
- l. Expand the Report Footer section, then copy and paste the **=Sum([Weight])** text box from the CenterNumber Footer section to the Report Footer section.
- m. Move and align the controls in the Report Footer section to be positioned directly under their counterparts in the CenterNumber Footer section.
- n. Change the label in the Report Footer section to **Grand Total Weight**.
- o. Remove extra blank space in the report by dragging the bottom of the report as well as the section bars up, then preview a portion of the last page of the report, as shown in **FIGURE D-23**. The last Total Center Weight and Grand Total Weight values on your report should match the figure.
- p. Save and close the Deposit Listing report, close the Recycle-D.accdb database, then exit Access.

**FIGURE D-23**

6/4/2013	90	Lions
6/20/2013	85	Junior League
8/31/2013	50	Girl Scouts #11
10/2/2013	90	Lions
Total Center Weight	2720	
Grand Total Weight	9365	

## Independent Challenge 4: Explore

One way you can use an Access database on your own is to record and track your job search efforts. In this exercise, you create a report to help read and analyze data into your job-tracking database.

- a. Start Access and open the JobSearch-D.accdb database from the location where you store your Data Files. Enable content if prompted.
- b. Open the Employers table, and enter five more records to identify five more potential employers.
- c. Use subdatasheets in the Employers table to enter five more potential jobs. You may enter all five jobs for one employer, one job for five different employers, or any combination thereof. Be sure to check the spelling of all data entered. For the Desirability field, enter a value from **1** to **5**, 1 being the least desirable and 5 the most desirable. Close the Employers table.
- d. Use the Report Wizard to create a report that lists the CompanyName, EmpCity, and EmpState fields from the Employers table, and the Title, AnnualSalary, and Desirability fields from the Positions table.
- e. View the data by Employers, do not add any more grouping levels, and sort the records in ascending order by Title.
- f. Use an Outline layout and a Landscape orientation, then title the report **Job Opportunities**.
- g. In Design View, revise the labels in the EmployerID Header section from CompanyName to **Company**, EmpCity to **City**, EmpState to **State**, and AnnualSalary to **Salary**.
- h. In Design View, right-align the text within the Company, City, and State labels so they are closer to the text boxes they describe.
- i. In Report Design View, move the Page expression in the Page Footer section and the right edge of the report to the left, within the 10.5" mark on the horizontal ruler, and then drag the right edge of the report to the left to make sure that the report fits within the margins of one sheet of paper in landscape orientation.
- j. Open the EmployerID Footer section and use the Line control in the Controls group on the DESIGN tab to add a horizontal line across the width of the report in the EmployerID Footer section. (*Hint:* The Line control may be on the second row of the Controls box. Also, press and hold [Shift] while dragging the line to create a perfectly horizontal line.)
- k. Click a green error indicator that appears on the labels in the EmployerID Header section, point to the warning button to read the ScreenTip, then click the drop-down arrow on the error indicator and click Ignore Error.
- l. Preview and save the Job Opportunities report making sure that the report fits within one page wide, then print the first page if requested by your instructor.
- m. Close the Job Opportunities report, close the JobSearch-D.accdb database, then exit Access 2013.

## Visual Workshop

Open the Basketball-D.accdb database from the location where you store your Data Files and enable content if prompted. Open the Players table, enter *your* name instead of Kelsey Douglas, then close the table. Your goal is to create the report shown in **FIGURE D-24**. Use the Report Wizard, and select the PFirst, PLast, HomeTown, and HomeState fields from the Players table. Select the FieldGoals, 3Pointers, and FreeThrows fields from the Stats table. View the data by Players, do not add any more grouping levels, and do not add any more sorting levels. Use a Block layout and a Portrait orientation, then title the report **Scoring Report**. In Layout View, resize all of the columns so that they fit on a single piece of portrait paper, and change the labels in the Page Header section as shown. In Design View, open the PlayerNo Footer section and add text boxes with expressions to sum the FieldGoals, 3Pointers, and FreeThrow fields. Move, modify, align, and resize all controls as needed to match **FIGURE D-24**. Be sure to print preview the report to make sure that it fits within the width of one sheet of paper. Modify the report to narrow it in Report Design View if needed.

**FIGURE D-24**

Scoring Report						
Player Name	Home Town	State	Field Goals	3 Pointers	Free Throws	
Student First	Student Last	Linden	IA			
			4	1	3	
			5	2	2	
			5	3	3	
			6	3	5	
			4	1	1	
			4	2	2	
			3	2	1	
			4	2	3	
			4	2	3	
			3	2	1	
Subtotals			42	20	24	

# Working in the Cloud

**CASE**

In your job for the Vancouver branch of Quest Specialty Travel, you travel frequently, you often work from home, and you also collaborate online with colleagues and clients. You want to learn how you can use SkyDrive with Office 2013 to work in the Cloud so that you can access and work on your files anytime and anywhere. (*Note:* SkyDrive and Office Web Apps are dynamic Web pages, and might change over time, including the way they are organized and how commands are performed. The steps and figures in this appendix reflect these pages at the time this book was published.)

## Unit Objectives

After completing this unit, you will be able to:

- Understand Office 2013 in the Cloud
- Work Online
- Explore SkyDrive
- Manage Files on SkyDrive
- Share Files
- Explore Office Web Apps
- Complete a Team Project

## Files You Will Need

WEB-1.pptx

WEB-2.docx

Microsoft® product screenshots used with permission from Microsoft® Corporation.

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**Learning Outcomes**

- Describe Office 2013 Cloud Computing features
- Define SkyDrive
- Define Office Web Apps

**DETAILS**

# Understand Office 2013 in the Cloud

The term **cloud computing** refers to the process of working with files and apps online. You may already be familiar with Web-based e-mail accounts such as Gmail and outlook.com. These applications are **cloud-based**, which means that you do not need a program installed on your computer to run them. Office 2013 has also been designed as a cloud-based application. When you work in Office 2013, you can choose to store your files “in the cloud” so that you can access them on any device connected to the Internet.

**CASE**

*You review the concepts related to working online with Office 2013.*

- **How does Office 2013 work in the Cloud?**

When you launch an Office application such as Word or Excel, you might see your name and maybe even your picture in the top right corner of your screen. This information tells you that you have signed in to Office 2013, either with your personal account or with an account you are given as part of an organization such as a company or school. When you are signed in to Office and click the FILE tab in any Office 2013 application such as Word or Excel, you see a list of the files that you have used recently on your current computer and on any other connected device such as a laptop, a tablet or even a Windows phone. The file path appears beneath each filename so that you can quickly identify its location as shown in **FIGURE WEB-1**. Office 2013 also remembers your personalized settings so that they are available on all the devices you use.

- **What are roaming settings?**

A **roaming setting** is a setting that travels with you on every connected device. Examples of roaming settings include your personal settings such as your name and picture, the files you've used most recently, your list of connected services such as Facebook and Twitter, and any custom dictionaries you've created. Two particularly useful roaming settings are the Word Resume Reading Position setting and the PowerPoint Last Viewed Slide setting. For example, when you open a PowerPoint presentation that you've worked on previously, you will see a message similar to the one shown in **FIGURE WEB-2**.

- **What is SkyDrive?**

**SkyDrive** is an online storage and file sharing service. When you are signed in to your computer with your Microsoft account, you receive access to your own SkyDrive, which is your personal storage area on the Internet. On your SkyDrive, you are given space to store up to 7 GB of data online. A SkyDrive location is already created on your computer as shown in **FIGURE WEB-3**. Every file you save to SkyDrive is synced among your computers and your personal storage area on SkyDrive.com. The term **synced** (which stands for synchronized) means that when you add, change or delete files on one computer, the same files on your other devices are also updated.

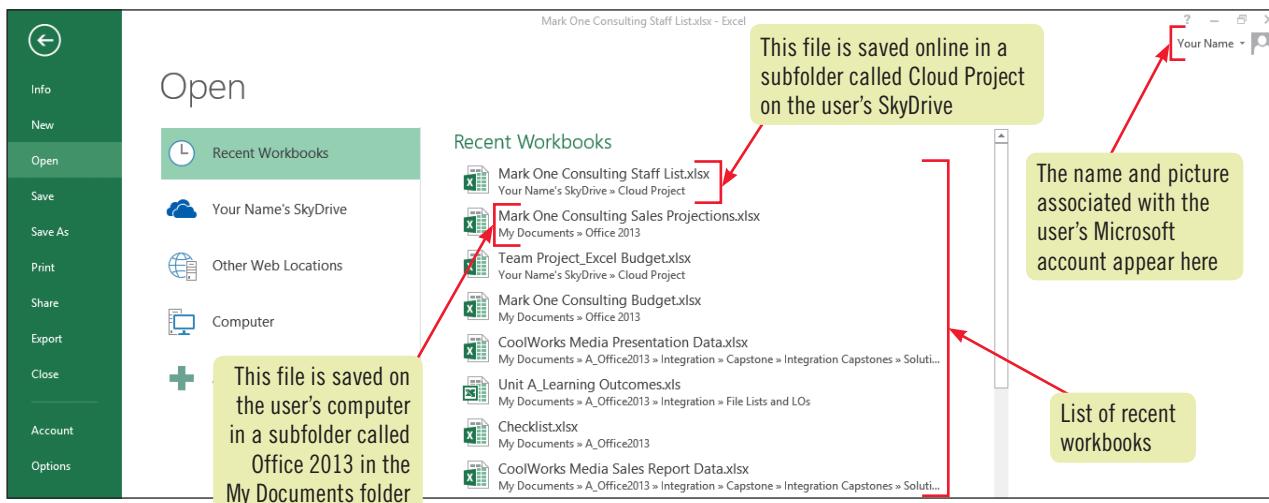
- **What are Office Web Apps?**

**Office Web Apps** are versions of Microsoft Word, Excel, PowerPoint, and OneNote that you can access online from your SkyDrive. An Office Web App does not include all of the features and functions included with the full Office version of its associated application. However, you can use the Office Web App from any computer that is connected to the Internet, even if Microsoft Office 2013 is not installed on that computer.

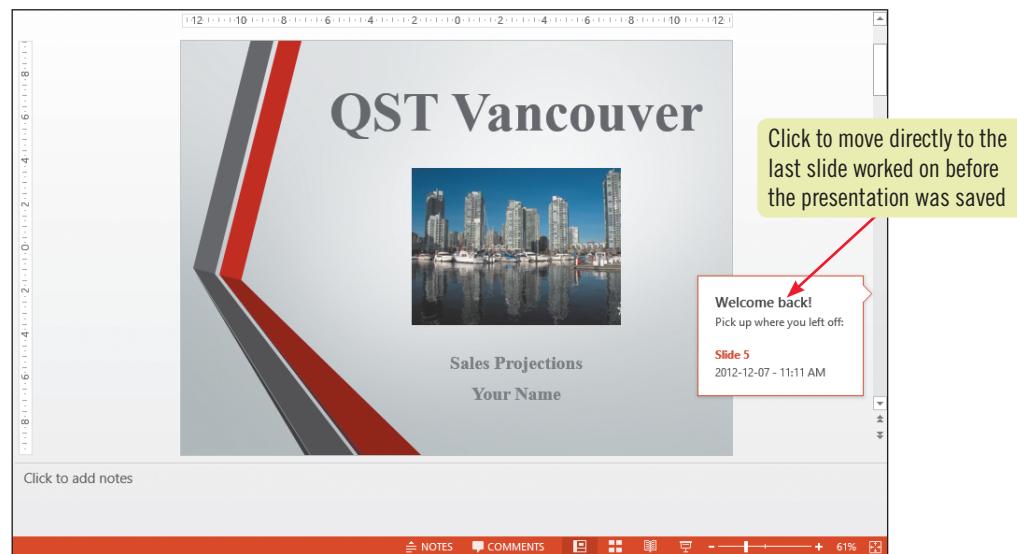
- **How do SkyDrive and Office Web Apps work together?**

You can create a file in Office 2013 using Word, Excel, PowerPoint, or OneNote and then save it to your SkyDrive. You can then open the Office file saved to SkyDrive and edit it using your Office 2013 apps. If you do not have Office 2013 installed on the computer you are using, you can edit the file using your Web browser and the corresponding Office Web App. You can also use an Office Web App to create a new file, which is saved automatically to SkyDrive while you work and you can download a file created with an Office Web App and work with the file in the full version of the corresponding Office application.

**FIGURE WEB-1: FILE tab in Microsoft Excel**

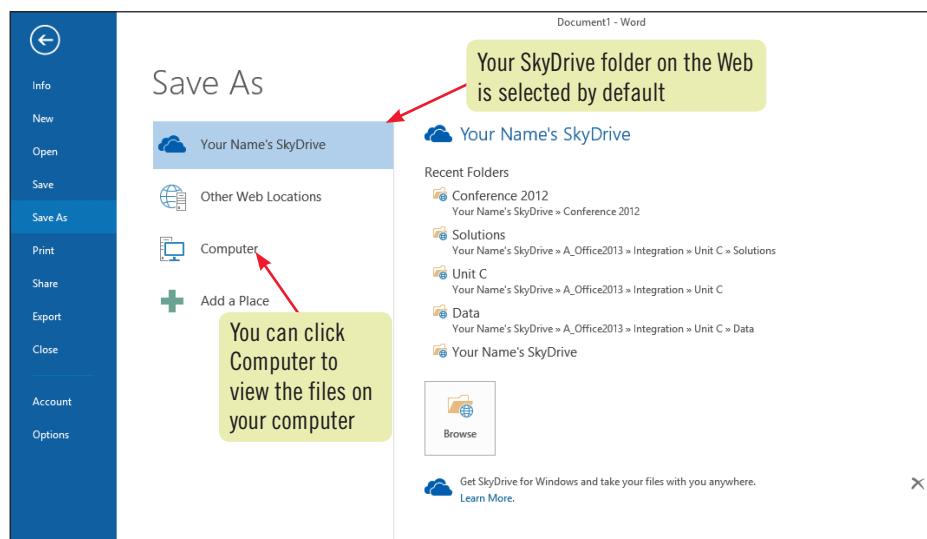


**FIGURE WEB-2: PowerPoint Last Viewed Slide setting**



Cloud

**FIGURE WEB-3: Saving a Word file on SkyDrive**



Working in the Cloud

Cloud 3

**Learning Outcomes**

- View Microsoft account settings
- Sign out of a Microsoft account
- Switch Microsoft accounts

**STEPS**

# Work Online

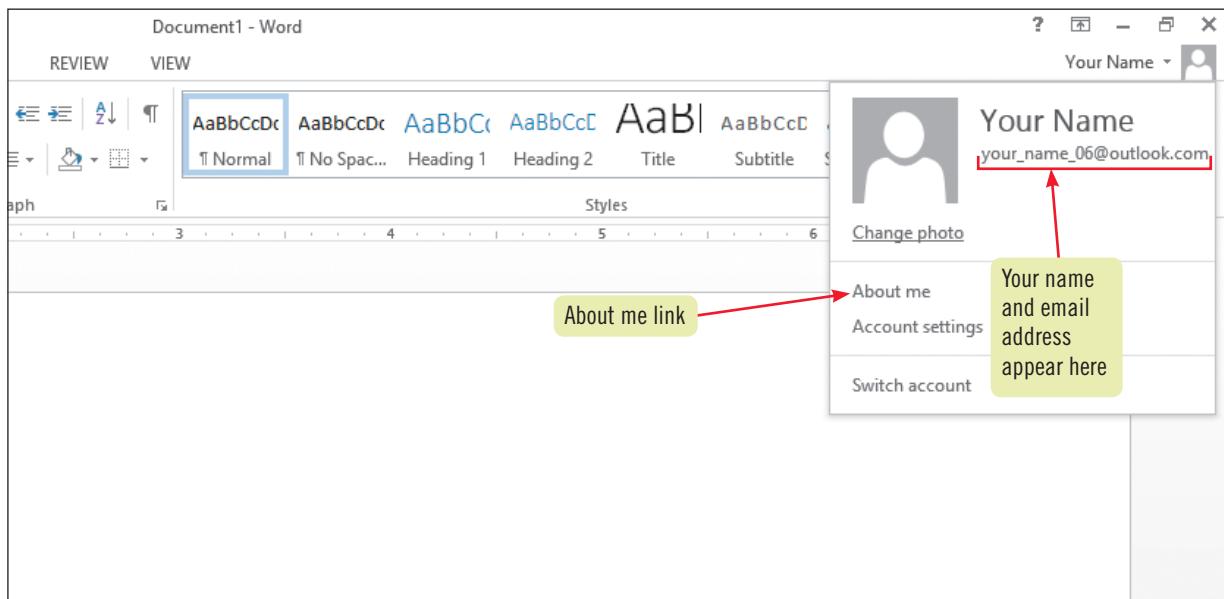
When you work on your own computer, you are usually signed in to your Microsoft account automatically. When you use another person's computer or a public computer, you will be required to enter the password associated with your Microsoft account to access files you have saved on Windows SkyDrive. You know you are signed in to Windows when you see your name and possibly your picture in the top right corner of your screen. *Note:* To complete the steps below, you need to be signed in to your Microsoft account. If you do not have a Microsoft account, see "Getting a Microsoft account" in the yellow box. **CASE** *You explore the settings associated with your account, learn how to switch accounts, and sign out of an account.*

1. **Sign in to Windows, if necessary, launch Word, click **Blank document**, then verify that your name appears in the top right corner of your screen**
2. **Click the **list arrow** to the right of your name, as shown in **FIGURE WEB-4**, then click **About me** and sign in if prompted**

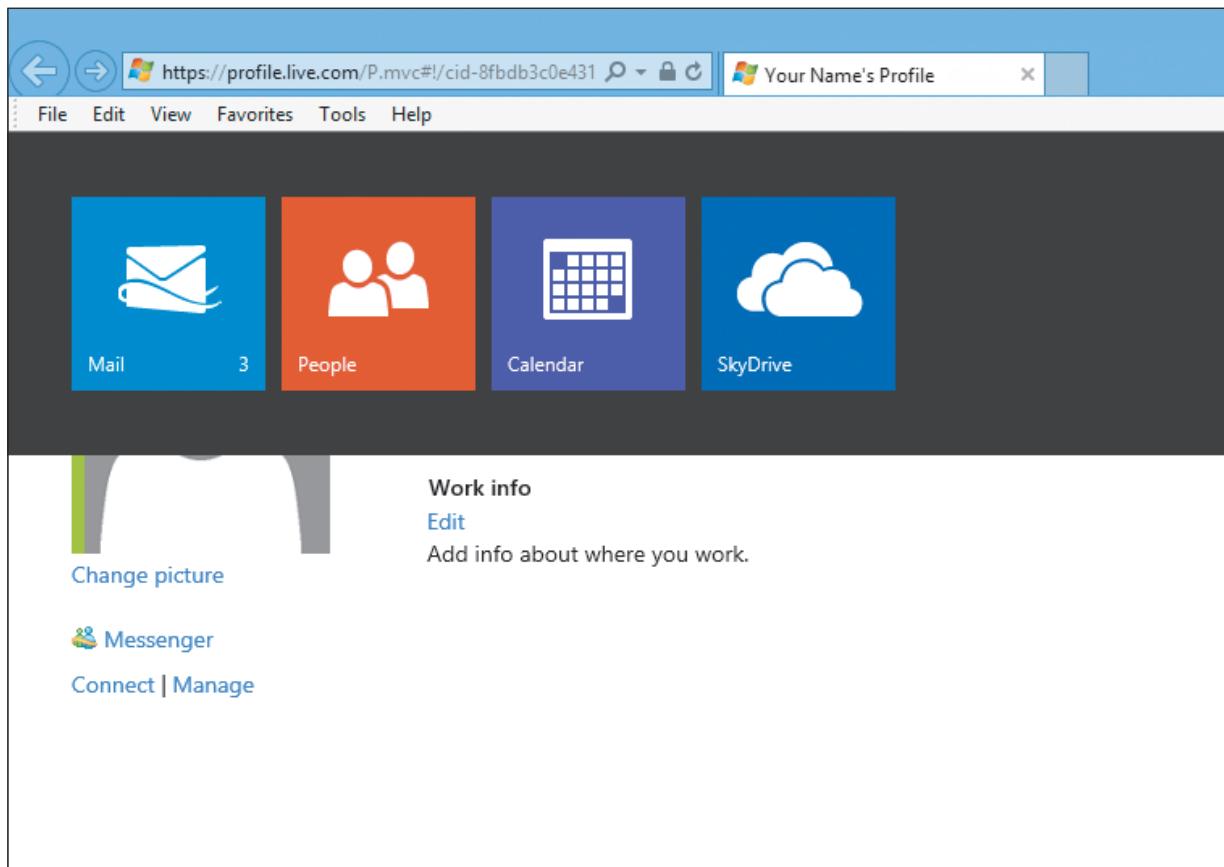
Internet Explorer opens and your Profile page appears. Here, you can add or edit your contact information and information about your workplace. You can also change the name and picture that appear in the top right corner of your window.

3. **Click the **list arrow** next to **Profile** in the top left corner of your screen, above the picture**  
The tiles representing the services your Windows account is connected to appear as shown in **FIGURE WEB-5**. Note that if you have connected your Microsoft account to accounts in other services such as Facebook, LinkedIn, or outlook.com, you will see these connections in the appropriate app. For example, your connections to Facebook and LinkedIn appear in the People app.
4. **Click a blank area below the apps tiles, click **Your Name** in the top right corner, then click **Account settings****  
Either you are taken directly to the Microsoft account screen or, depending on your security settings, a Sign in screen appears. To make changes to your account, you might need to enter the password associated with your account. You can also choose to sign in with a different Microsoft account. Once you sign in, you can change the information associated with your account such as your name, email address, birth date, and password. You can also choose to close your Microsoft account, which deletes all the data associated with it.
5. **Click the **Close button**  in the upper right corner of the window to remove the Sign-in window, click **Close all tabs** to return to Word, then click the **list arrow**  next to **Your Name** in the top right corner of the Word window**  
To sign out of your account, you can click Sign Out at the top of the Accounts dialog box that appears when you click Account Settings. When you are working on your own computers, you will rarely need to sign out of your account. However, if you are working on a public computer, you may want to sign out of your account to avoid having your files accessible to other users.
6. **Click **Switch account****  
You can choose to sign into another Microsoft account or to an account with an organization.
7. **Click the **Close button** **  
You are returned to a blank document in Word.
8. **Exit Word**

**FIGURE WEB-4:** Viewing Windows account options in Word



**FIGURE WEB-5:** Connected services associated with a Profile



Cloud

### Getting a Microsoft account

If you have been working with Windows and Office 2013, you might already have a Microsoft account, which was previously referred to as a Windows Live ID. You also have an account if you use outlook.com (formerly Hotmail), SkyDrive, Xbox LIVE,

or have a Windows Phone. A Microsoft account consists of an email address and a password. If you wish to create a new Microsoft account, go to <https://signup.live.com/> and follow the directions provided.

**Learning Outcomes**

- Save a file to SkyDrive
- Create a folder on SkyDrive

**STEPS**

1. Start PowerPoint, then open the file **WEB-1.pptx** from the location where you store your Data Files

**QUICK TIP**

If you are signed in with your own account, you will see Your Name's SkyDrive (for example, "Tom's SkyDrive").

2. Click the **FILE tab**, click **Save As**, then click **Your Name's SkyDrive** (top selection) if it is not already selected

3. Click the **Browse button**

The Save As dialog box opens, showing the folders stored on your SkyDrive. You may have several folders already stored there or you may have none.

4. Click **New folder**, type **Cengage**, then press **[Enter]**

5. Double-click **Cengage**, select **WEB-1.pptx** in the File name text box, type **WEB-QST Vancouver 1** as shown in **FIGURE WEB-6**, then click **Save**

The file is saved to the Cengage folder on the SkyDrive that is associated with your Microsoft account. The PowerPoint window reappears.

6. Click the **FILE tab**, click **Close**, click the **FILE tab**, then click **Open**

WEB-QST Vancouver 1.pptx appears as the first file listed in the Recent Presentations list, and the path to your Cengage folder on your SkyDrive appears beneath it.

7. Click **WEB-QST Vancouver 1.pptx** to open it, then type your name where indicated on the title slide

8. Click **Slide 2** in the Navigation pane, select **20%** in the third bullet, type **30%**, click the **FILE tab**, click **Save As**, click **Cengage** under Current Folder, change the file name to **WEB-QST Vancouver 2**, then click **Save**

9. Exit PowerPoint

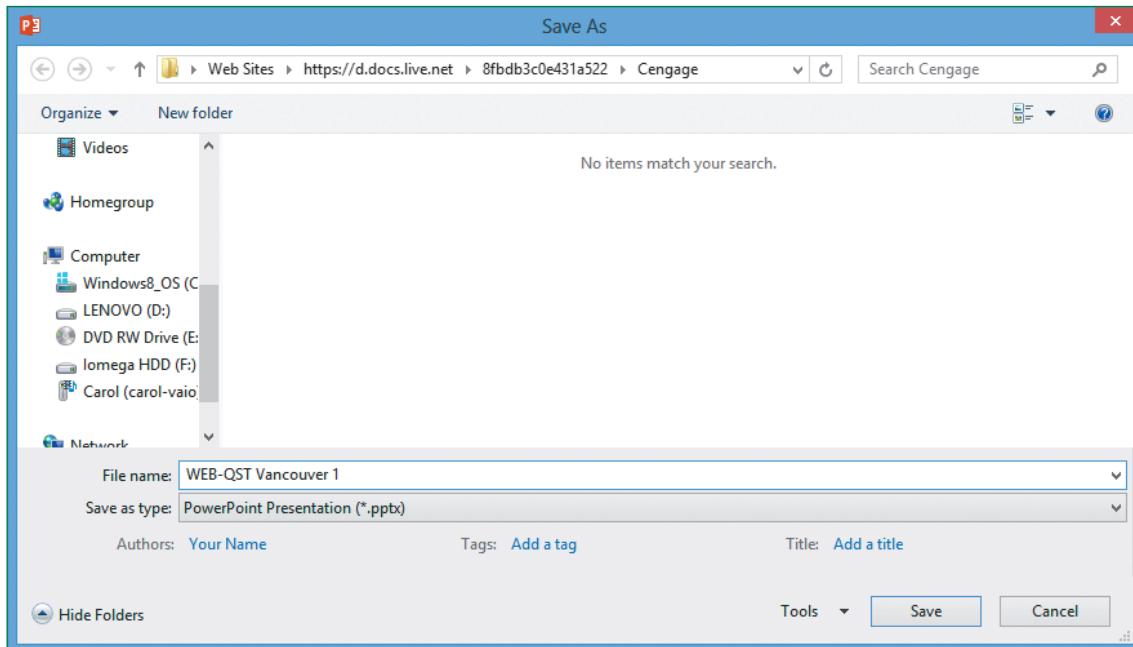
A new version of the presentation is saved to the Cengage folder that you created on SkyDrive.

**How to disable default saving to Skydrive**

You can specify how you want to save files from Office 2013 applications. By default, files are saved to locations you specify on your SkyDrive. You can change the default to be a different location. In Word, PowerPoint, or Excel, click the **FILE tab**, then click **Options**. Click **Save** in the left sidebar, then in the **Save** section,

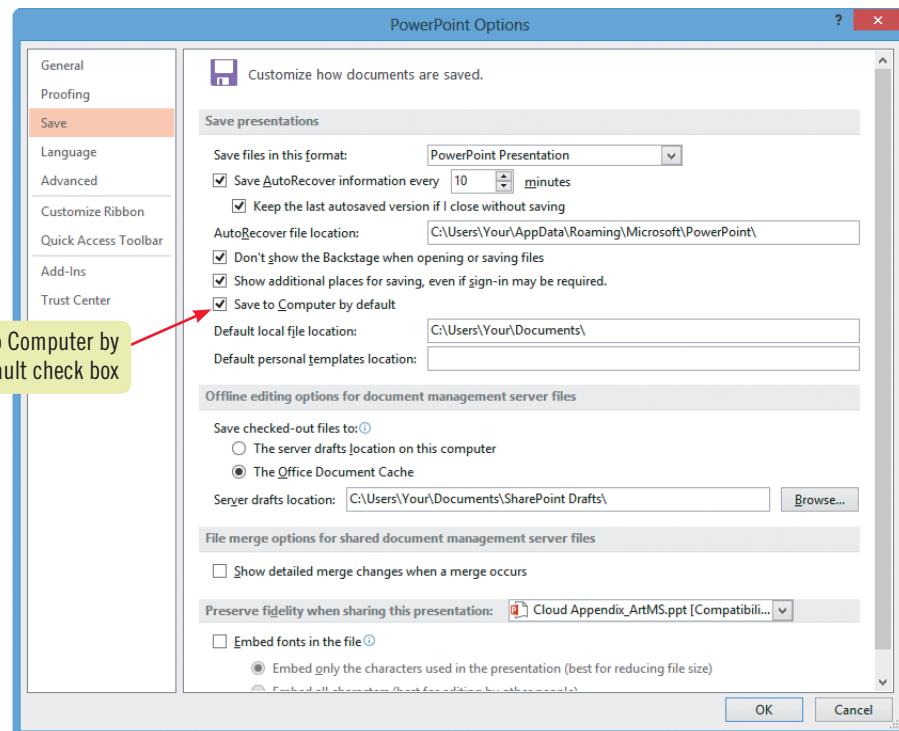
click the **Save to Computer by default** check box, as shown in **FIGURE WEB-7**. Click **OK** to close the PowerPoint Options dialog box. The **Save** options you've selected will be active in Word, PowerPoint, and Excel, regardless of which application you were using when you changed the option.

**FIGURE WEB-6:** Saving a presentation to SkyDrive



Cloud

**FIGURE WEB-7:** Changing the default Save location in PowerPoint



Working in the Cloud

Cloud 7

**Learning Outcomes**

- Access SkyDrive from Internet Explorer
- Rename, Delete, and Move files in SkyDrive

**STEPS**

# Manage Files on SkyDrive

You are automatically connected to SkyDrive when you sign into your Microsoft account and launch an Office 2013 application. You can also access SkyDrive through your Web browser or from the SkyDrive App in Windows 8. When you start the SkyDrive App, you can upload and download files, create folders, and delete files. You can also download the SkyDrive app to your tablet or other mobile device so you can access files wherever you have an Internet connection. When you access SkyDrive from Internet Explorer, you can do more file management tasks, including renaming and moving files. **CASE** *You explore how to work with SkyDrive from your Web browser and from the SkyDrive App.*

**1. Launch Internet Explorer or another Web browser, type [skydrive.com](http://skydrive.com) in the Address box, then press [Enter]**

If you are signed in to your Microsoft account, your SkyDrive opens. If you are not signed in, the login page appears where you can enter the email address and password associated with your Microsoft account.

**2. Sign in if necessary, click the blue tile labeled Cengage, then right-click WEB-QST Vancouver 1.pptx as shown in FIGURE WEB-8**

You can open the file in the PowerPoint Web App or in PowerPoint, download the file to your computer, share it, embed it, and perform other actions such as renaming and deleting.

**3. Click Download, click Open in the bar at the bottom of the screen, then click Enable Editing**

The presentation opens in PowerPoint where you can save it to your computer hard drive or back to SkyDrive.

**4. Click the DESIGN tab, click the More button  in the Themes group, select the Wisp theme, click the FILE tab, click Save As, click Computer, click Browse, navigate to a location on your computer or on an external drive such as a USB flash drive, click Save, then exit PowerPoint****5. Launch PowerPoint, then notice the files listed in the left pane under Recent**

The file you just saved to your computer or external drive appears first and the file saved to the Cengage folder on SkyDrive appears second.

**6. Click the second listing, notice that the file is not updated with the Wisp design, then exit PowerPoint**

When you download a file from SkyDrive, changes you make are not saved to the version on SkyDrive. You can also access SkyDrive from your Windows 8 screen by using the SkyDrive app.

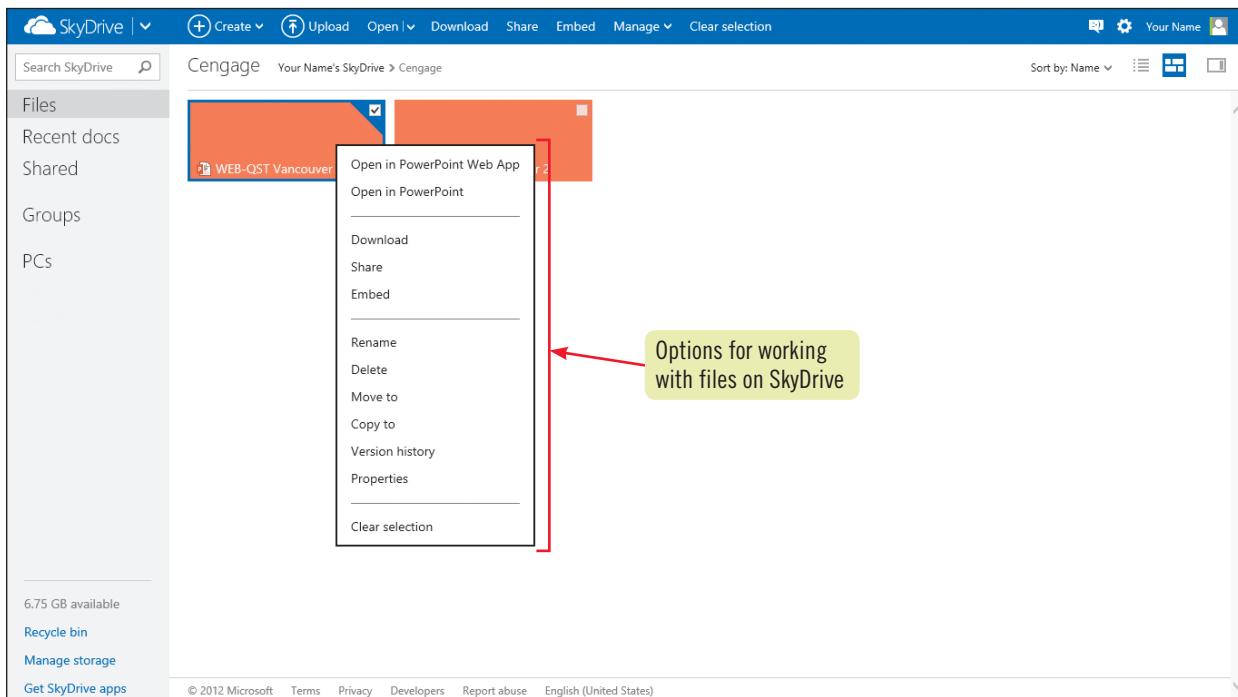
**7. Show the Windows 8 Start screen, click the SkyDrive tile, open the Cengage folder, right-click WEB-QST Vancouver 1, view the buttons on the taskbar as shown in FIGURE WEB-9, click the Delete button on the taskbar, then click Delete****8. Right-click WEB-QST Vancouver 2, click the New Folder button on the taskbar, type Illustrated, then click Create folder**

You can rename and move files in SkyDrive through Internet Explorer.

**9. Move the mouse pointer to the top of the screen until it becomes the hand pointer, drag to the bottom of the screen to close the SkyDrive App, click the Internet Explorer tile on the Start screen, go to [skydrive.com](http://skydrive.com), right-click WEB-QST Vancouver 2 on the SkyDrive site, click Move to, click the  next to Cengage, click Illustrated, then click Move****TROUBLE**

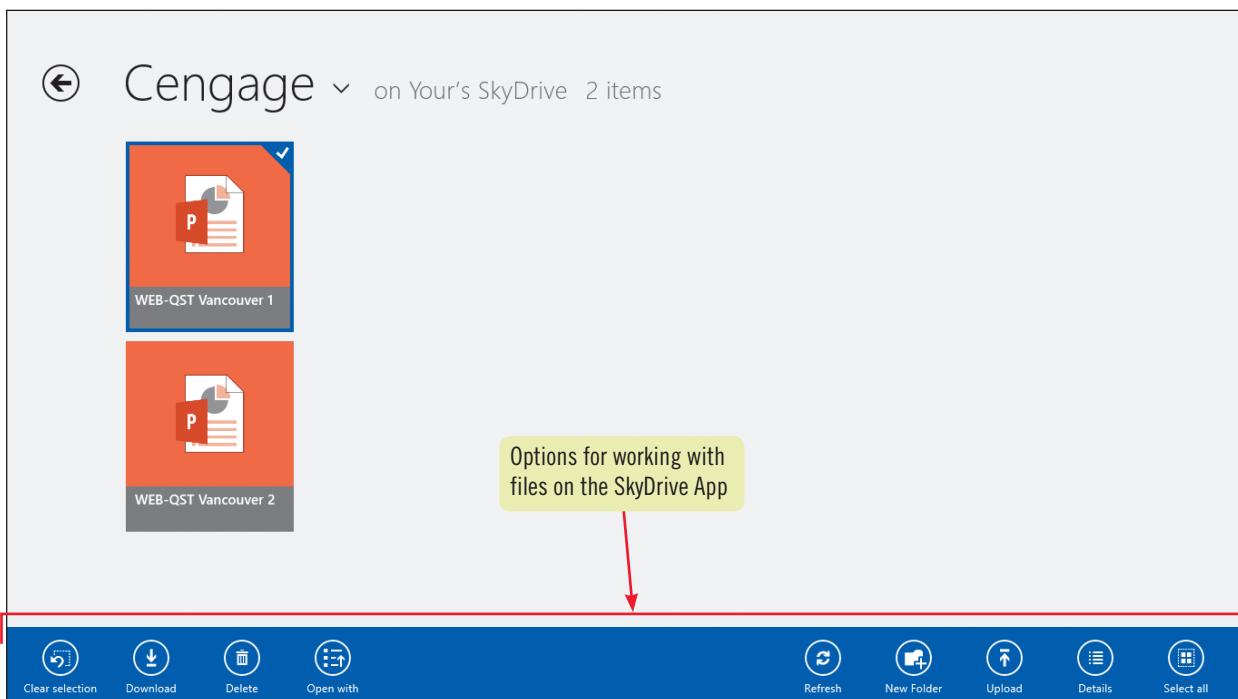
If prompted, enter your log in information in the Add your Microsoft account screen. Note that you can only complete steps 7 to 9 if you are working on Windows 8.

**FIGURE WEB-8:** File management options on SkyDrive



Cloud

**FIGURE WEB-9:** File management options on SkyDrive App



Cloud 9

Working in the Cloud

**Learning Outcome**

- Share a file from SkyDrive

**STEPS****TROUBLE**

If you cannot find a partner, you can email the file to yourself.

1. Identify a partner with whom you can work, and obtain his or her e-mail address; you can choose someone in your class or someone on your e-mail list, but it should be someone who will be completing these steps when you are
2. Right-click the **Illustrated folder**, then click **Sharing** as shown in **FIGURE WEB-10**
3. Type the e-mail address of your partner
4. Click in the **Include a personal message box**, then type **Here's the presentation we're working on together** as shown in **FIGURE WEB-11**
5. Verify that the **Recipients can edit** check box is selected, then click **Share**

Your partner will receive a message advising him or her that you have shared the WEB-QST Vancouver 2.pptx file. If your partner is completing the steps at the same time, you will receive an e-mail from your partner.

**TROUBLE**

If you do not receive a message, your partner has not yet completed the steps to share the folder.

6. Check your e-mail for a message advising you that your partner has shared a folder with you
7. If you have received the e-mail, click the **Show content link** that appears in the warning box, if necessary, then click **WEB-QST Vancouver 2.pptx** in the body of the e-mail message

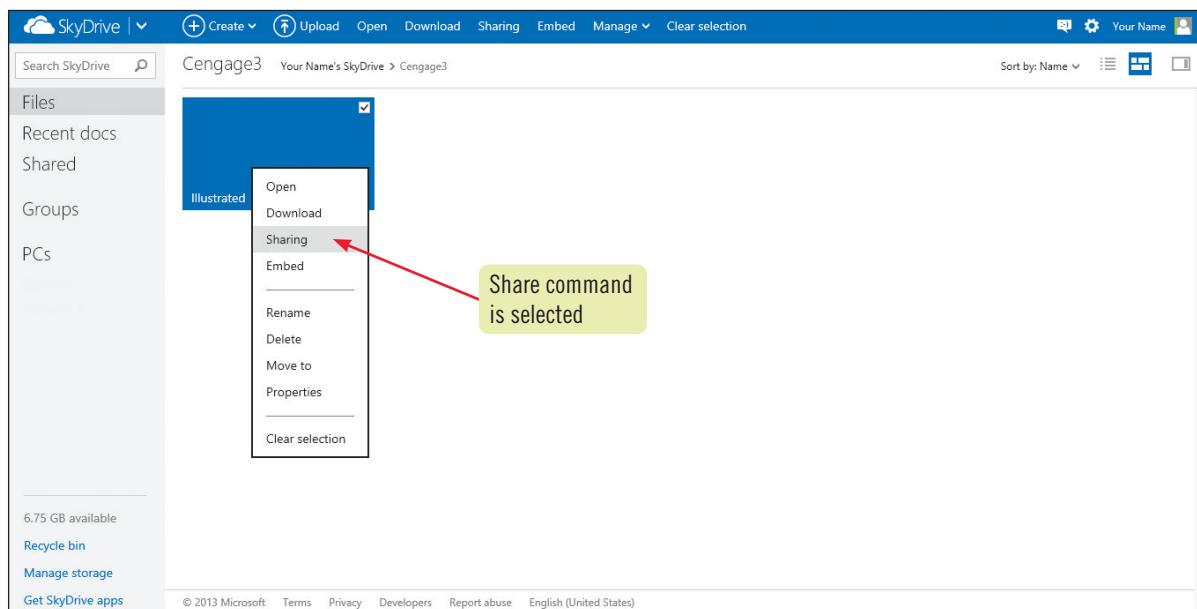
The PowerPoint presentation opens in the Microsoft PowerPoint Web App. You will work in the Web App in the next lesson.

**Co-authoring documents**

You can work on a document, presentation, or workbook simultaneously with a partner. First, save the file to your SkyDrive. Click the FILE tab, click Share, then click Invite People. Enter the email addresses of the people you want to work on the file with you and then click Share. Once your partner has received, opened, and started editing the document, you can start working together. You will see a notification in the status bar

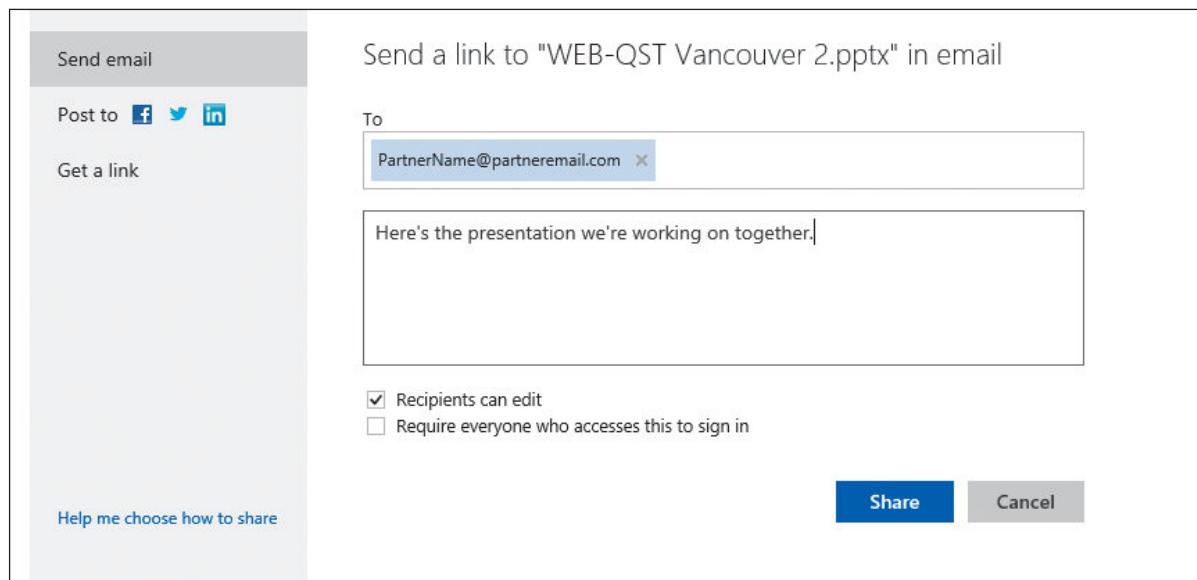
that someone is editing the document with you. When you click the notification, you can see the name of the other user and their picture if they have one attached to their Windows account. When your partner saves, you'll see his or changes in green shading which goes away the next time you save. You'll have an opportunity to co-author documents when you complete the Team Project at the end of this appendix.

**FIGURE WEB-10:** Sharing a file from SkyDrive



Cloud

**FIGURE WEB-11:** Sharing a file with another person



**Learning Outcomes**

- Edit a presentation with PowerPoint Web App
- Open a presentation from PowerPoint Web App

# Explore Office Web Apps

As you have learned, a Web App is a scaled-down version of an Office program. Office Web Apps include Word, Excel, PowerPoint, and OneNote. You can use the Office Web Apps to create and edit documents even if you don't have Office 2013 installed on your computer and you can use them on other devices such as tablets and smartphones. From SkyDrive, you can also open the document in the full Office application if the application is installed on the computer you are using.

**CASE**

*You use the PowerPoint Web App and the full version of PowerPoint to edit the presentation.*

## STEPS

**1. Click EDIT PRESENTATION, then click Edit in PowerPoint Web App**

Presentations opened using the PowerPoint Web App have the same look and feel as presentations opened using the full version of PowerPoint. However, like all of the Office Web Apps, the PowerPoint Web App has fewer features available than the full version of PowerPoint.

**2. Review the Ribbon and its tabs to familiarize yourself with the commands you can access from the PowerPoint Web App**

TABLE WEB-1 summarizes the commands that are available.

**TROUBLE**

You need to click the text first, click it again, then drag to select it.

**3. Click Slide 3, click the text Hornby Island, click it again and select it, then type Tofino so the bullet item reads Tofino Sea Kayaking****4. Click outside the text box, click the DESIGN tab, then click the More Themes list arrow  to show the selection of designs available**

A limited number of designs are available on the PowerPoint Web App. When you want to use a design or a command that is not available on the PowerPoint Web App, you open the file in the full version of PowerPoint.

**5. Click on a blank area of the slide, click OPEN IN POWERPOINT at the top of the window, then click Yes in response to the message****6. Click the DESIGN tab, click the More button  in the Themes group to expand the Themes gallery, select the Quotable design as shown in FIGURE WEB-12, click the picture on Slide 1, then press [Delete]****7. Click the Save button  on the Quick Access toolbar**

The Save button includes a small icon indicating you are saving to SkyDrive and not to your computer's hard drive or an external drive.

**8. Click the Close button  to exit PowerPoint**

You open the document again to verify that your partner made the same changes.

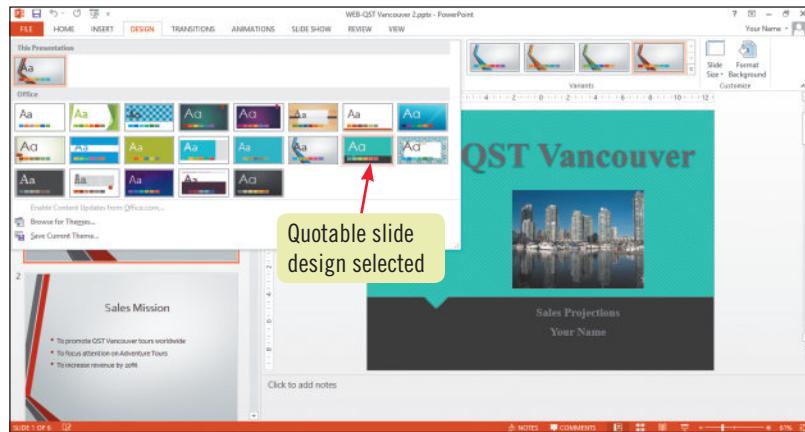
**9. Launch PowerPoint, click WEB-QST Vancouver 2.pptx at the top of the Recent list, verify that the Quotable design is applied and the picture is removed, then exit PowerPoint**

## Exploring other Office Web Apps

Three other Office Web Apps are Word, Excel, and OneNote. You can share files on SkyDrive directly from any of these applications using the same method you used to share files from PowerPoint. To familiarize yourself with the commands available

in an Office Web App, open the file and then review the commands on each tab on the Ribbon. If you want to perform a task that is not available in the Web App, open the file in the full version of the application.

**FIGURE WEB-12:** Selecting the Quotable design



**TABLE WEB-1:** Commands on the PowerPoint Web App

tab	category/group	options
FILE	Info	<ul style="list-style-type: none"> <li>Open in PowerPoint (also available on the toolbar above the document window)</li> <li>Previous Versions</li> </ul>
	Save As	<ul style="list-style-type: none"> <li>Where's the Save Button?: In PowerPoint Web App, the presentation is being saved automatically so there is no Save button</li> <li>Download: use to download a copy of the presentation to your computer</li> </ul>
	Print	<ul style="list-style-type: none"> <li>Create a printable PDF of the presentation that you can then open and print</li> </ul>
	Share	<ul style="list-style-type: none"> <li>Share with people - you can invite others to view and edit your presentation</li> <li>Embed - include the presentation in a blog on Web site</li> </ul>
	About	<ul style="list-style-type: none"> <li>Try Microsoft Office, Terms of Use, and Privacy and Cookies</li> </ul>
	Help	<ul style="list-style-type: none"> <li>Help with PowerPoint questions, Give Feedback to Microsoft, and modify how you can view the presentation (for example, text only)</li> </ul>
	Exit	<ul style="list-style-type: none"> <li>Close the presentation and exit to view SkyDrive folders</li> </ul>
HOME	Clipboard	<ul style="list-style-type: none"> <li>Cut, Copy, Paste, Format Painter</li> </ul>
	Delete	<ul style="list-style-type: none"> <li>Delete a slide</li> </ul>
	Slides	<ul style="list-style-type: none"> <li>Add a new slide, duplicate a slide, hide a slide</li> </ul>
	Font	<ul style="list-style-type: none"> <li>Change the font, size, style, and color of selected text</li> </ul>
	Paragraph	<ul style="list-style-type: none"> <li>Add bullets and numbering, indent text, align text, and change text direction</li> </ul>
	Drawing	<ul style="list-style-type: none"> <li>Add text boxes and shapes, arrange them on the slide, apply Quick Styles, modify shape fill and outline, and duplicate a shape</li> </ul>
INSERT	Slides	<ul style="list-style-type: none"> <li>Add new slides with selected layout</li> </ul>
	Images	<ul style="list-style-type: none"> <li>Add pictures from your computer, online pictures, or screen shots</li> </ul>
	Illustrations	<ul style="list-style-type: none"> <li>Add shapes, SmartArt, or charts</li> </ul>
	Links	<ul style="list-style-type: none"> <li>Add links or actions to objects</li> </ul>
	Text	<ul style="list-style-type: none"> <li>Add comments, text boxes, headers and footers, and other text elements</li> </ul>
	Comments	<ul style="list-style-type: none"> <li>Add comments</li> </ul>
DESIGN	Themes	<ul style="list-style-type: none"> <li>Apply a limited number of themes to a presentation and apply variants to a selected theme</li> <li>Apply variants to a selected theme</li> </ul>
ANIMATIONS	Animation	<ul style="list-style-type: none"> <li>Apply a limited number of animation effects to a slide element and modify existing timings</li> </ul>
TRANSITIONS	Transitions to This Slide	<ul style="list-style-type: none"> <li>Apply a limited number of transition effects to slides and chose to apply the effect to all slides</li> </ul>
VIEW	Presentation Views	<ul style="list-style-type: none"> <li>You can view the slide in Editing View, Reading View, Slide Show View, and Notes View and you can show any comments made by users who worked on PowerPoint using the full version</li> </ul>

Cloud

# Team Project

## Introduction

From SkyDrive, you can easily collaborate with others to produce documents, presentations, and spreadsheets that include each user's input. Instead of emailing a document to colleagues and then waiting for changes, you can both work on the document at the same time online. To further explore how you can work with SkyDrive and Office 2013, you will work with two other people to complete a team project. The subject of the team project is the planning of a special event of your choice, such as a class party, a lecture, or a concert. The special event should be limited to a single afternoon or evening.

Follow the guidelines provided below to create the files required for the team project. When you have completed the project, the team will submit a Word document containing information about your project, as well as three files related to the project: a Word document, a PowerPoint presentation, and an Excel workbook.

## Project Setup

### As a team, work together to complete the following tasks.

- a. Share email addresses among all three team members.
- b. Set up a time (either via email, an online chat session, Internet Messaging, or face to face) when you will get together to choose your topic and assign roles.
- c. At your meeting, complete the table below with information about your team and your special event.

**Team Name** (last name of one team member or another name that describes the project.)

**Team Members**

**Event type** (for example, party, lecture, concert, etc.)

**Event purpose** (for example, fundraiser for a specific cause, celebrate the end of term, feature a special guest, etc.)

**Event location, date, and time**

**Team Roles** indicate who is responsible for each of the following three files (one file per team member)

**Word document:**

**Excel workbook:**

**PowerPoint presentation:**

## Document Development

Individually, complete the tasks listed below for the file you are responsible for. You need to develop appropriate content, format the file attractively, and then be prepared to share the file with the other team members.

### Word Document

The Word document contains a description of your special event and includes a table listing responsibilities and a time line. Create the Word document as follows:

1. Create a Cloud Project folder on your SkyDrive, then create a new Word document and save it as **Cloud Project Word Description** to the Cloud Project folder.

## Document Development (continued)

2. Include a title with the name of your project and a subtitle with the names of your team members. Format the title with the Title style and the subtitle with the Subtitle style.
3. Write a paragraph describing the special event—its topics, purpose, the people involved, etc. You can paraphrase some of the information your team discussed in your meeting.
4. Create a table similar to the table shown below and then complete it with the required information. Include up to ten rows. A task could be “Contact the caterers” or “Pick up the speaker.” Visualize the sequence of tasks required to put on the event.

Task	Person Responsible	Deadline

5. Format the table using the table style of your choice.
6. Save the document to your SkyDrive. You will share the document with your team members and receive feedback in the next section.

### Excel Workbook

The Excel workbook contains a budget for the special event. Create the Excel workbook as follows:

1. Create a new Excel workbook and save it as **Cloud Project\_Excel Budget** to the Cloud Project folder on your SkyDrive.
2. Create a budget that includes both the revenues you expect from the event (for example, ticket sales, donations, etc.) and the expenses. Expense items include advertising costs (posters, ads, etc.), food costs if the event is catered, transportation costs, etc. The revenues and expenses you choose will depend upon the nature of the project.
3. Make the required calculations to total all the revenue items and all the expense items.
4. Calculate the net profit (or loss) as the revenue minus the expenses.
5. Format the budget attractively using fill colors, border lines, and other enhancements to make the data easy to read.
6. Save the workbook to your SkyDrive. You will share the workbook with your team members and receive feedback in the next section.

### PowerPoint Presentation

The PowerPoint presentation contains a presentation that describes the special event to an audience who may be interested in attending. Create the PowerPoint presentation as follows:

1. Create a new PowerPoint presentation and save it as **Cloud Project\_PowerPoint Presentation** to the Cloud Project folder on your SkyDrive.
2. Create a presentation that consists of five slides including the title slide as follows:
  - a. Slide 1: Title slide includes the name of the event and your team members
  - b. Slide 2: Purpose of the party or event
  - c. Slide 3: Location, time, and cost
  - d. Slide 4: Chart showing a breakdown of costs (to be supplied when you co-author in the next section)
  - e. Slide 5: Motivational closing slide designed to encourage the audience to attend; include appropriate pictures
3. Format the presentation attractively using the theme of your choice.
4. Save the presentation to your SkyDrive. You will share the presentation with your team members and receive feedback.

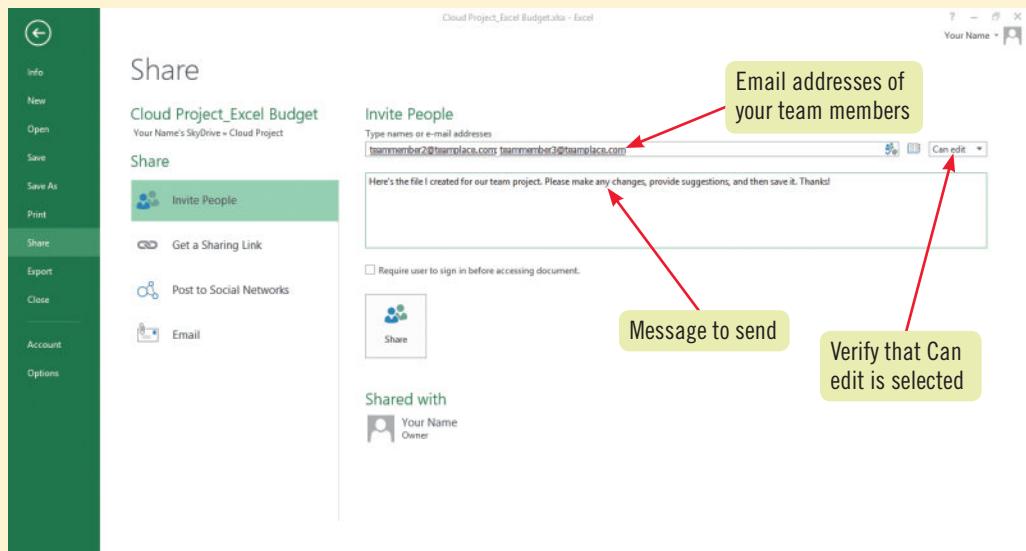
Cloud

## Co-Authoring on Skydrive

You need to share your file, add feedback to the other two files, then create a final version of your file. When you read the file created by the other two team members, you need to add additional data or suggestions. For example, if you created the Excel budget, you can provide the person who created the PowerPoint presentation with information about the cost breakdown. If you created the Word document, you can add information about the total revenue and expenses contained in the Excel budget to your description. You decide what information to add to each of the two files you work with.

1. Open the file you created.
2. Click the **FILE tab**, click **Share**, then click **Invite People**.
3. Enter the email addresses of the other two team members, then enter the following message: **Here's the file I created for our team project. Please make any changes, provide suggestions, and then save it. Thanks!** See **FIGURE WEB-13**.

**FIGURE WEB-13**



4. Click the **Share button**.
5. Allow team members time to add information and comments to your file. Team members should save frequently. When the file is saved, it is saved directly to your SkyDrive. Note that you can work together on the document or you can work separately. You can also choose to make changes with the full version of the Office 2013 applications or with the Office Web Apps. When someone is working on your file, you will see their user name on the status bar.
6. Decide which changes you want to keep, make any further changes you think are needed to make the document as clear as possible, then save a final version.

## Project Summary

When you are pleased with the contents of your file and have provided feedback to your team members, assign a team member to complete the following tasks and then complete your portion as required.

1. Open **WEB-2.docx** from the location where you save your Data Files, then save it to your Cloud Project folder on your SkyDrive as **Cloud Project\_Summary**.
2. Read the directions in the document, then enter your name as Team Member 1 and write a short description of your experience working with SkyDrive and Office 2013 to complete the team project.
3. Share the file with your team members and request that they add their own names and descriptions.
4. When all team members have finished working on the document, save all the changes.
5. Make sure you store all four files completed for the project in the Cloud Project appendix on your SkyDrive, then submit them to your instructor on behalf of your team.

# Glossary

**A**ctive The currently available document, program, or object; on the taskbar, when more than one program is open, the button for the active program appears slightly lighter.

**Alignment command** A command used in Layout or Design View for a form or report to either left-, center-, or right-align a value within its control, or to align the top, bottom, right, or left edge of the control with respect to other controls.

**Alternate Back Color property** A property that determines the alternating background color of the selected section in a form or report.

**Anchoring** A layout positioning option that allows you to tie controls together so you can work with them as a group.

**AND criteria** Criteria placed in the same row of the query design grid. All criteria on the same row must be true for a record to appear on the resulting datasheet.

**Argument** Information that a function uses to create the final answer. Multiple arguments are separated by commas. All of the arguments for a function are surrounded by a single set of parentheses.

**AutoNumber** A field data type in which Access enters a sequential integer for each record added into the datasheet. Numbers cannot be reused even if the record is deleted.

**Avg function** A built-in Access function used to calculate the average of the values in a given field.

**B**ackground image An image that fills an entire form or report, appearing "behind" the other controls.

**Backstage view** Appears when the FILE tab is clicked. The navigation bar on the left side contains commands to perform actions common to most Office programs, such as opening a file, saving a file, and closing the file.

**Backward-compatible** Software feature that enables documents saved in an older version of a program to be opened in a newer version of the program.

**Bound control** A control used in either a form or report to display data from the underlying field; used to edit and enter new data in a form.

**C**alculation A new value that is created by entering an expression in a text box on a form or report.

**Calendar Picker** A pop-up calendar from which you can choose dates for a date field.

**Clipboard** A temporary Windows storage area that holds the selections you copy or cut.

**Cloud computing** Work done in a virtual environment using data, applications, and resources stored on servers and accessed over the Internet or a company's internal network rather than on users' computers.

**Column separator** The thin line that separates the field names to the left or right.

**Combo box** A bound control used to display a list of possible entries for a field in which you can also type an entry from the keyboard. It is a "combination" of the list box and text box controls.

**Compatibility** The ability of different programs to work together and exchange data.

**Contextual tab** A tab that appears only when a specific task can be performed; contextual tabs appear in an accent color and close when no longer needed.

**Control** Any element on a form or report such as a label, text box, line, or combo box. Controls can be bound, unbound, or calculated.

**Control Source property** A property of a bound control in a form or report that determines the field to which the control is connected.

**Criteria** Entries (rules and limiting conditions) that determine which records are displayed when finding or filtering records in a datasheet or form, or when building a query.

**Criteria syntax** Rules by which criteria need to be entered. For example, text criteria syntax requires that the criteria are surrounded by quotation marks (""). Date criteria are surrounded by pound signs (#).

**Current record** The record that has the focus or is being edited.

**D**ata type A required property for each field that defines the type of data that can be entered in each field. Valid data types include AutoNumber, Short Text, Number, Currency, Date/Time, and Long Text.

**Database designer** The person responsible for building and maintaining tables, queries, forms, and reports.

**Database user** The person primarily interested in entering, editing, and analyzing the data in the database.

**Datasheet** A spreadsheet-like grid that displays fields as columns and records as rows.

**Datasheet View** A view that lists the records of the object in a datasheet. Tables, queries, and most form objects have a Datasheet View.

**Date function** A built-in Access function used to display the current date on a form or report; enter the Date function as Date().

**Design View** A view in which the structure of the object can be manipulated. Every Access object (table, query, form, report, macro, and module) has a Design View.

**Dialog box launcher** An icon you can click to open a dialog box or task pane from which to choose related commands.

**Document window** Most of the screen in Word, PowerPoint, and Excel, where you create a document, slide, or worksheet.

**Edit mode** The mode in which Access assumes you are trying to edit a particular field, so keystrokes such as [Ctrl][End], [Ctrl][Home], [↓], and [↑] move the insertion point within the field.

**Edit record symbol** A pencil-like symbol that appears in the record selector box to the left of the record that is currently being edited in either a datasheet or a form.

**Error indicator** An icon that automatically appears in Design View to indicate some type of error. For example, a green error indicator appears in the upper-left corner of a text box in Form Design View if the text box Control Source property is set to a field name that doesn't exist.

**Expression** A combination of values, functions, and operators that calculates to a single value. Access expressions start with an equal sign and are placed in a text box in either Form Design View or Report Design View.

**Field** In a table, a field corresponds to a column of data, a specific piece or category of data such as a first name, last name, city, state, or phone number.

**Field list** A list of the available fields in the table or query that the field list represents. Also, a pane that opens in Access and lists the database tables and the fields they contain.

**Field name** The name given to each field in a table.

**Field selector** The button to the left of a field in Table Design View that indicates the currently selected field. Also the thin gray bar above each field in the query grid.

**File** A stored collection of data; in Access, the entire database and all of its objects are in one file.

**Filter** A way to temporarily display only those records that match given criteria.

**Filter By Form** A way to filter data that allows two or more criteria to be specified at the same time.

**Filter By Selection** A way to filter records for an exact match.

**Focus** The property that indicates which field would be edited if you were to start typing.

**Foreign key field** In a one-to-many relationship between two tables, the foreign key field is the field in the "many" table that links the table to the primary key field in the "one" table.

**Form** An Access object that provides an easy-to-use data entry screen that generally shows only one record at a time.

**Form section** A location in a form that contains controls. The section in which a control is placed determines where and how often the control prints.

**Form View** View of a form object that displays data from the underlying recordset and allows you to enter and update data.

**Form Wizard** An Access wizard that helps you create a form.

**Formatting** Enhancing the appearance of information through font, size, and color changes.

**Function** A special, predefined formula that provides a shortcut for a commonly used calculation, for example, SUM or COUNT.

**Gallery** A visual collection of choices you can browse through to make a selection. Often available with Live Preview.

**Graphic image** See Image.

**Grouping** A way to sort records in a particular order, as well as provide a section before and after each group of records.

**Groups** Each tab on the Ribbon is arranged into groups to make features easy to find.

**Image** A nontextual piece of information such as a picture, piece of clip art, drawn object, or graph. Because images are graphical (and not numbers or letters), they are sometimes referred to as graphical images.

**Infinity symbol** The symbol that indicates the "many" side of a one-to-many relationship.

**Insertion point** A blinking vertical line that appears when you click in a text box; indicates where new text will be inserted.

**Integrate** To incorporate a document and parts of a document created in one program into another program; for example, to incorporate an Excel chart into a PowerPoint slide, or an Access report into a Word document.

**Interface** The look and feel of a program; for example, the appearance of commands and the way they are organized in the program window.

**Is Not Null** A criterion that finds all records in which any entry has been made in the field.

**Is Null** A criterion that finds all records in which no entry has been made in the field.

**Join line** The line identifying which fields establish the relationship between two related tables. Also called a link line.

**Label control** An unbound control that displays text to describe and clarify other information on a form or report.

**Label Wizard** A report wizard that precisely positions and sizes information to print on a vast number of standard business label specifications.

**Landscape orientation** A way to print or view a page that is 11 inches wide by 8.5 inches tall.

**Launch** To open or start a program on your computer.

**Layout** A way to group several controls together on a form or report to more quickly add, delete, rearrange, resize, or align controls.

**Layout View** An Access view that lets you make some design changes to a form or report while you are browsing the data.

**Left function** An Access function that returns a specified number of characters, starting with the left side of a value in a Text field.

**Like operator** An operator used in a query to find values in a field that match the pattern you specify.

**Link line** The line identifying which fields establish the relationship between two related tables.

**Live Preview** A feature that lets you point to a choice in a gallery or palette and see the results in the document or object without actually clicking the choice.

**Logical view** The datasheet of a query is sometimes called a logical view of the data because it is not a copy of the data, but rather, a selected view of data from the underlying tables.

**Macro** An Access object that stores a collection of keystrokes or commands such as those for printing several reports in a row or providing a toolbar when a form opens.

**Margin** The space between the outer edge of the control and the data displayed inside the control.

**Module** An Access object that stores Visual Basic programming code that extends the functions of automated Access processes.

**Multiuser** A characteristic that means more than one person can enter and edit data in the same Access database at the same time.

**Name property** A property that uniquely identifies each object and control on a form or report.

**Navigation buttons** Buttons in the lower-left corner of a datasheet or form that allow you to quickly navigate between the records in the underlying object as well as add a new record.

**Navigation mode** A mode in which Access assumes that you are trying to move between the fields and records of the datasheet (rather than edit a specific field's contents), so keystrokes such as [Ctrl][Home] and [Ctrl][End] move you to the first and last field of the datasheet.

**Navigation Pane** A pane in the Access program window that provides a way to move between objects (tables, queries, forms, reports, macros, and modules) in the database.

**Object** A table, query, form, report, macro, or module in a database.

**One-to-many line** The line that appears in the Relationships window and shows which field is duplicated between two tables to serve as the linking field. The one-to-many line displays a "1" next to the field that serves as the "one" side of the relationship and displays an infinity symbol next to the field that serves as the "many" side of the relationship when referential integrity is specified for the relationship. Also called the one-to-many join line.

**One-to-many relationship** The relationship between two tables in an Access database in which a common field links the tables together. The linking field is called the primary key field in the "one" table of the relationship and the foreign key field in the "many" table of the relationship.

**Online collaboration** The ability to incorporate feedback or share information across the Internet or a company network or intranet.

**OR criteria** Criteria placed on different rows of the query design grid. A record will appear in the resulting datasheet if it is true for any single row.

**Orphan record** A record in the "many" table of a one-to-many relationship that doesn't have a matching entry in the linking field of the "one" table.

**P**adding The space between controls.

**Pixel (picture element)** One pixel is the measurement of one picture element on the screen.

**Portrait orientation** A way to print or view a page that is 8.5 inches wide by 11 inches tall.

**Previewing** Prior to printing, seeing onscreen exactly how the printout will look.

**Primary key field** A field that contains unique information for each record. A primary key field cannot contain a null entry.

**Print Preview** An Access view that shows you how a report or other object will print on a sheet of paper.

**Property** A characteristic that further defines a field (if field properties), control (if control properties), section (if section properties), or object (if object properties).

**Property Sheet** A window that displays an exhaustive list of properties for the chosen control, section, or object within the Form Design View or Report Design View.

**Query** An Access object that provides a spreadsheet-like view of the data, similar to that in tables. It may provide the user with a subset of fields and/or records from one or more tables. Queries are created when the user has a "question" about the data in the database.

**Query design grid** The bottom pane of the Query Design View window in which you specify the fields, sort order, and limiting criteria for the query.

**Query Design View** The window in which you develop queries by specifying the fields, sort order, and limiting criteria that determine which fields and records are displayed in the resulting datasheet.

**Quick Access toolbar** A small toolbar on the left side of a Microsoft application window's title bar, containing icons that you click to quickly perform common actions, such as saving a file.

**R**ead-only An object property that indicates whether the object can read and display data, but cannot be used to change (write to) data.

- Record** A row of data in a table.
- Record source** The table or query that defines the field and records displayed in a form or report.
- Referential integrity** A set of Access rules that govern data entry and help ensure data accuracy.
- Relational database software** Software such as Access that is used to manage data organized in a relational database.
- Report** An Access object that creates a professional printout of data that may contain such enhancements as headers, footers, and calculations on groups of records.
- Report Wizard** An Access wizard that helps you create a report.
- Ribbon** Appears below the title bar in every Office program window, and displays commands you're likely to need for the current task.
- Ruler** A vertical or horizontal guide that appears in Form and Report Design View to help you position controls.
- S****ave As command** A command on the FILE tab that saves the entire database (and all objects it contains) or only the current object with a new name.
- Screen capture** An electronic snapshot of your screen, as if you took a picture of it with a camera, which you can paste into a document.
- Section** A location of a form or report that contains controls. The section in which a control is placed determines where and how often the control prints.
- Simple Query Wizard** An Access wizard that prompts you for information it needs to create a new query.
- Sizing handles** Small squares at each corner of a selected control in Access. Dragging a handle resizes the control. Also known as handles.
- Split form** A form split into two panes; the upper pane allows you to display the fields of one record in any arrangement, and the lower pane maintains a datasheet view of the first few records.
- SQL (Structured Query Language)** A language that provides a standardized way to request information from a relational database system.
- Subdatasheet** A datasheet that is nested within another datasheet to show related records. The subdatasheet shows the records on the "many" side of a one-to-many relationship.
- Suite** A group of programs that are bundled together and share a similar interface, making it easy to transfer skills and program content among them.
- Sum function** A mathematical function that totals values in a field.
- Syntax** Rules for entering information such as query criteria or property values.
- T****ab Index property** A form property that indicates the numeric tab order for all controls on the form that have the Tab Stop property set to Yes.
- Tab order property** A form property that determines the sequence in which the controls on the form receive the focus when the user presses [Tab] or [Enter] in Form view.
- Tab Stop property** A form property that determines whether a field accepts focus.
- Table** A collection of records for a single subject, such as all of the customer records; the fundamental building block of a relational database because it stores all of the data.
- Table Design View** A view of a table that provides the most options for defining fields.
- Tabs** Organizational unit used for commands on the Ribbon. The tab names appear at the top of the Ribbon and the active tab appears in front.
- Template** A sample file, such as a database provided within the Microsoft Access program.
- Text Align property** A control property that determines the alignment of text within the control.
- Text box** The most common type of control used to display field values.
- Theme** A predefined set of colors, fonts, line and fill effects, and other formats that can be applied to an Access database and give it a consistent, professional look.
- Title bar** Appears at the top of every Office program window; it displays the document or database name and program name.
- U****nbound control** A control that does not change from record to record and exists only to clarify or enhance the appearance of the form, using elements such as labels, lines, and clip art.
- User interface** A collective term for all the ways you interact with a software program.
- V****iew** Each Access object has different views for different purposes. For example, you work with data in Datasheet View. You modify the design of the object in Layout and Design Views. You preview a printout in Print Preview.
- W****ildcard** A special character used in criteria to find, filter, and query data. The asterisk (\*) stands for any group of characters. For example, the criteria I\* in a State field criterion cell would find all records where the state entry was IA, ID, IL, IN, or Iowa. The question mark (?) wildcard stands for only one character.
- Z****ooming in** A feature that makes a printout appear larger but shows less of it on screen at once; does not affect the actual size of the printout.
- Zooming out** A feature that shows more of a printout on screen at once but at a reduced size; does not affect the actual size of the printout.

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Note: Page numbers in boldface indicate key terms.

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- \* (asterisk), AC 36, AC 37
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- ? (question mark), AC 36, AC 37
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