

# 4

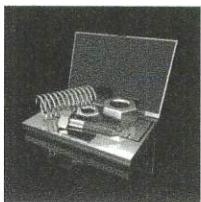
# Application Software: Programs That Let You Work and Play

## Programs That Let You Work

### The Nuts and Bolts of Software

#### OBJECTIVES

1. What's the difference between application software and system software? (pp. 124)
2. What are the different ways I can access and use software? (pp. 124–125)



### Productivity and Business Software

#### OBJECTIVES

3. What kinds of applications are included in productivity software? (pp. 126–134)
4. What kinds of software do small and large businesses use? (pp. 134–135)



## Programs That Let You Play

### Multimedia and Entertainment Software

#### OBJECTIVE

5. What different types of multimedia and entertainment software are available? (pp. 140–145)

- **Sound Byte:** Enhancing Photos with Image-Editing Software  
● **Active Helpdesk:** Choosing Software

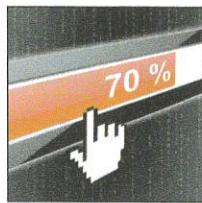


### Managing Your Software

#### OBJECTIVES

6. What's important to know when buying software? (pp. 146–149)
7. How do I install and uninstall software? (pp. 149–150)

- **Active Helpdesk:** Buying and Installing Software



Make This:

Explore an App Builder Skill on page 139

For all media in this chapter go to [pearsonhighered.com/techinaction](http://pearsonhighered.com/techinaction) or [MyITLab](#).

## check your understanding // review & practice

For a quick review of what you've learned, answer the following questions. Visit [pearsonhighered.com/techinaction](http://pearsonhighered.com/techinaction) to check your answers.

### multiple choice

1. What was the name of the first web browser?
  - a. Mosaic
  - b. Internet Explorer
  - c. Netscape
  - d. Firefox
2. Which programming language revolutionized the software industry?
  - a. ALGOL
  - b. BASIC
  - c. COBOL
  - d. FORTRAN
3. Which invention enabled computers to be made smaller and lighter?
  - a. the integrated circuit
  - b. the transistor
  - c. the microprocessor chip
  - d. magnetic tape
4. Which computer was touted as the first personal computer?
  - a. Altair
  - b. Commodore PET
  - c. Lisa
  - d. Osborne
5. What was the importance of the Turing machine to today's computers?
  - a. It described a system that was a precursor to today's notebook computer.
  - b. It was the first electronic calculator and a precursor to the computer.
  - c. It was the first computer to have a monitor.
  - d. It described a process to read, write, and erase symbols on a tape and was the precursor to today's RAM.
6. Which computer first stored its operating system in ROM?
  - a. Apple I
  - b. Apple II
  - c. Lisa
  - d. Macintosh
7. What was the first spreadsheet application?
  - a. Lotus 1-2-3
  - b. Excel
  - c. WordStar
  - d. VisiCalc
8. Which components are a characteristic of third-generation computers?
  - a. transistors
  - b. vacuum tubes
  - c. integrated circuits
  - d. microprocessor chips
9. For what is the UNIVAC computer best known?
  - a. It was the first computer used to tabulate U.S. census data.
  - b. It was the first computer to use the binary system.
  - c. It was the first computer to incorporate a magnetic tape system.
  - d. It was the first computer used as a mechanical calculator.
10. Who are the founders of Apple?
  - a. Paul Allen and Bill Gates
  - b. Steve Jobs and Steve Wozniak
  - c. Steve Jobs and Bill Gates
  - d. Bill Gates and Steve Wozniak

To take an autograded version of this review, please go to the companion website at [pearsonhighered.com/techinaction](http://pearsonhighered.com/techinaction), or go your MyITLab course.



# HOW COOL IS THIS?



Ever watch a video on your smartphone only to **fall asleep** or to be interrupted and miss part of it? **Eye-tracking software** has been around for a while. It's been used with desktop computers to help the disabled and in some high-end cars to warn drivers of dozing off. And FocusAssist for iPad from Mindflash is meant to help you **focus and pay attention** during training videos. These uses are only the tip of the iceberg, and experts agree that eye tracking has the potential to **transform** the way users interact with their mobile devices. With a **blink of an eye**, you could open or close apps, scroll through a webpage, take a picture, and so on. What possibilities do you see this technology presenting? (Ra2 Studio/Fotolia)

Scan here for more info

# Programs That Let You Work

A computer without software is like a sandwich without filling. Although a computer's hardware is critical, a computer system does nothing without software. In this section, we'll look at programs created to help you work more effectively and efficiently. First, let's check out some software basics.



## the nuts and bolts of SOFTWARE

Technically speaking, the term **software** refers to a set of instructions that tells the computer what to do. An instruction set, also called a **program**, provides a means for us to interact with and use the computer, even if we lack specialized programming skills. Your computer has two main types of software:

**1. Application software** is the software you use to do tasks at home, school, and work. Figure 4.1 shows the various types of application software we'll discuss in this chapter.

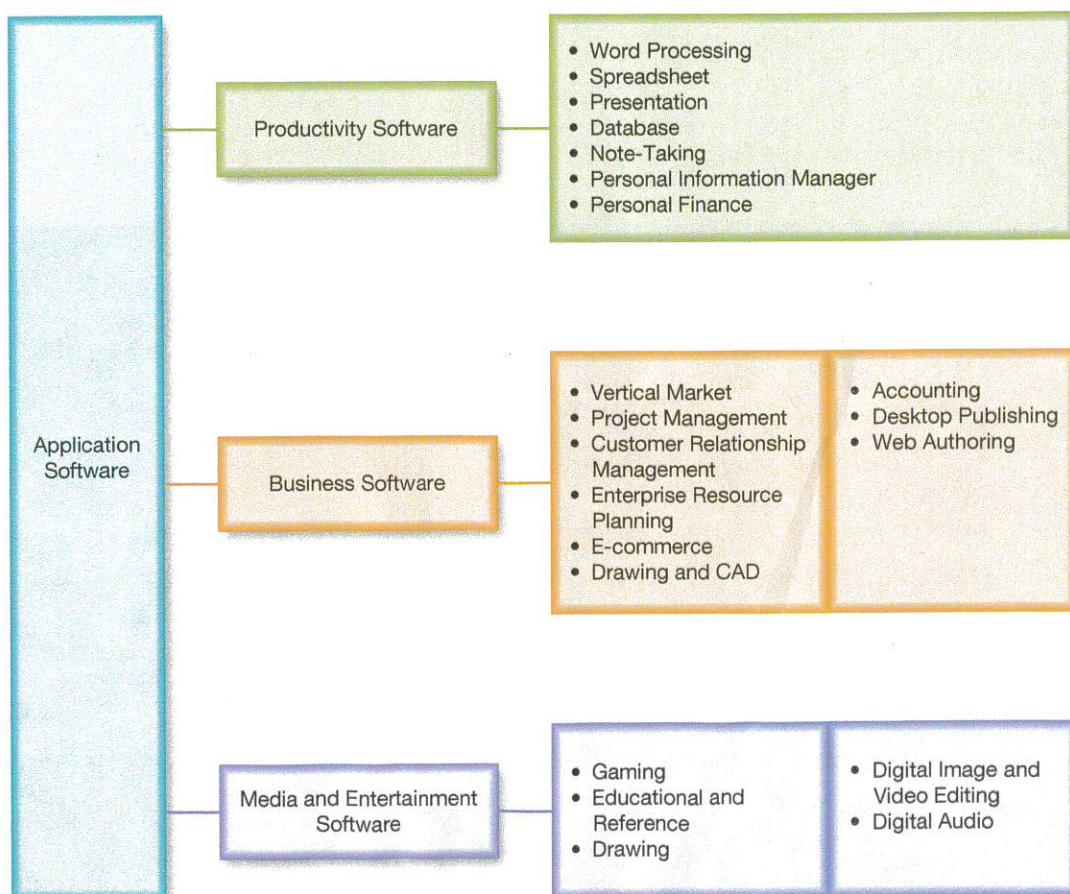
**2. System software** includes software that helps run the computer and coordinate instructions between application software and the computer's hardware devices. System software includes the operating system (such as Windows and OS X) and utility programs (programs in the operating system that help manage system resources). We discuss system software in detail in Chapter 5.

Other types of software, such as web browsers, virus protection, and backup and recovery software, are used every day. We'll discuss these types of software elsewhere in this book.

**What software do I need to install on my computer?** Virtually every new computer comes with software preinstalled, including an operating system and some application software, depending on which computer you buy. If you need to add other software to your system, you'll need either to

install the software yourself or to access it from the web. There are two types of software you can install on your computer:

- 1. Proprietary (or commercial) software** is software you buy, such as the Microsoft Office applications you're probably familiar with. You can download proprietary software directly from the Internet, or you can buy it on a DVD.
- 2. Open source software** is free software that is available with few licensing and copyright restrictions. One advantage of open source software is that a community of users continues to make changes to the software, keeping



**FIGURE 4.1** Application software lets you perform a variety of tasks.

# trends in IT

Most people own a mobile device, so it's no surprise that companies regard *mobile commerce* (or m-commerce)—using applications on smartphones and tablets to buy and sell products—as a trend that shouldn't be ignored.

Although mobile commerce hasn't taken over traditional methods of e-commerce just yet, the number of purchases from mobile devices continues to rise. Some studies indicate that in a few years, the number of mobile online retail transactions in the United States will double and account for nearly a quarter of all e-commerce retail activity. The emergence of tablets and better functioning m-commerce apps has improved the mobile shopping experience. Consider two trends that have facilitated the growing acceptance of m-commerce:

1. *Mobile payments:* Instead of using your credit card or debit card to buy something, some retailers such as Starbucks and Target have mobile apps that enable you to pay just by showing your smartphone. Mobile wallets, such as Google Wallet and Square Wallet, have been slow to catch on. Apple is hoping that Apple Pay can become the digital payment leader. Regardless, industry experts anticipate that mobile wallets will become the primary payment method of the future.
2. *Mobile coupons and barcodes:* Many consumers use mobile device apps to look up information by scanning special quick response (QR) codes (such as the one shown on page 123) on products. Many stores also have virtual store loyalty cards on their apps that let you access coupons, product information, and store discount programs.

it current without needing to wait for periodic updates. However, unlike Microsoft Office and other proprietary applications, open source applications offer little or no formal support. Instead, they're supported from their community of users across websites and newsgroups.

**Can I use software directly from the web?** Another way to obtain software is through **Software as a Service**

## Mobile Commerce: What Have You Bought with Your Phone Lately?

Although many mobile device owners feel it's not as safe to use their mobile devices to make purchases, it's just as safe as making purchases with your computer on the web. Time and education will help to relieve those fears.



**FIGURE 4.2** Have you made a payment using your smartphone instead of a credit card yet? (Dai Sugano/San Jose Mercury News/MCT/Newscom)

**(SaaS)**, in which the vendor hosts the software online and you access and use the software over the Internet without having to install it on your computer. With these **web-based applications**, you can collaborate online with others, avoiding the coordination mess that often occurs when transferring documents via e-mail. Although many web-based applications are not as fully featured as their installable counterparts, most work with files from other applications. ■



# productivity and business SOFTWARE

One reason computers are invaluable is that they make it easier to complete our daily tasks. **Productivity software** includes programs that let you perform various tasks required at home, school, and business and includes word processing, spreadsheet, presentation, database, and personal information manager programs.

## Bundled Productivity Software

**Is it better to buy software individually or in a bundled package?** For proprietary software, it's cheaper to buy a **software suite** than to buy each program individually. Software suites are available for all types of software. Productivity software suites include:

- *Microsoft Office*: the standard proprietary software suite for Windows. A version is also available for Apple computers.
- *Apache OpenOffice*: an open source productivity suite that provides functionality similar to that of Microsoft Office. You can download the installation file you'll need to run OpenOffice at [openoffice.org](http://openoffice.org).
- *Apple iWork*: a productivity suite made especially for Apple computers.

Microsoft Office Online and Google Drive are examples of web-based productivity suites. Microsoft Office Online includes online versions of Word, Excel, PowerPoint, and OneNote but with less functionality than the installed

versions. Google Drive ([drive.google.com](http://drive.google.com)) includes word processing, spreadsheet, and presentation functionality, as well as forms and drawing applications. If you're looking for basic productivity software that you can access from any computer, either online suite is sufficient. Figure 4.3 lists examples of productivity software suites, along with the individual applications each suite offers.

The individual programs within a suite work well together because they share common features, toolbars, and menus. For example, when using applications in the Microsoft Office suite, you can seamlessly create a spreadsheet in Excel, import it into Access, and then link an Access query to a Word document. It would be much harder to do the same thing using different applications from a variety of software developers.

## Word Processing Software

**What are the most common word processing applications?** You've probably used **word processing software** to create and edit documents such as research papers, class notes, and résumés. Microsoft Word is the most popular word processing program that you can buy and install on your computer. If you're looking for a more affordable alternative, you might want to try an open source alternative such as Writer, a word processing program from the Apache OpenOffice suite ([openoffice.org](http://openoffice.org)). Writer is similar to Microsoft Word. When saving a document in Writer, the default file format has an OpenDocument file (.odt) extension. However, by using

FIGURE 4.3

Productivity Software Suites						
PRODUCTIVITY SUITE	WORD PROCESSING	SPREADSHEET	PRESENTATION	DATABASE	NOTE-TAKING	PIM/E-MAIL
<b>Installed: Proprietary</b>						
Microsoft Office	Word	Excel	PowerPoint	Access	OneNote	Outlook
<b>Installed: Open Source</b>						
Apache OpenOffice	Writer	Calc	Impress	Base		
<b>Web-Based</b>						
Microsoft Office Online	Word	Excel	PowerPoint		OneNote	Outlook
Google Drive	Documents	Spreadsheets	Presentation			Gmail
Zoho	Writer	Sheet, Books	Show	Creator	Notebook	
ThinkFree	Document	Spreadsheet	Presentation		Note	

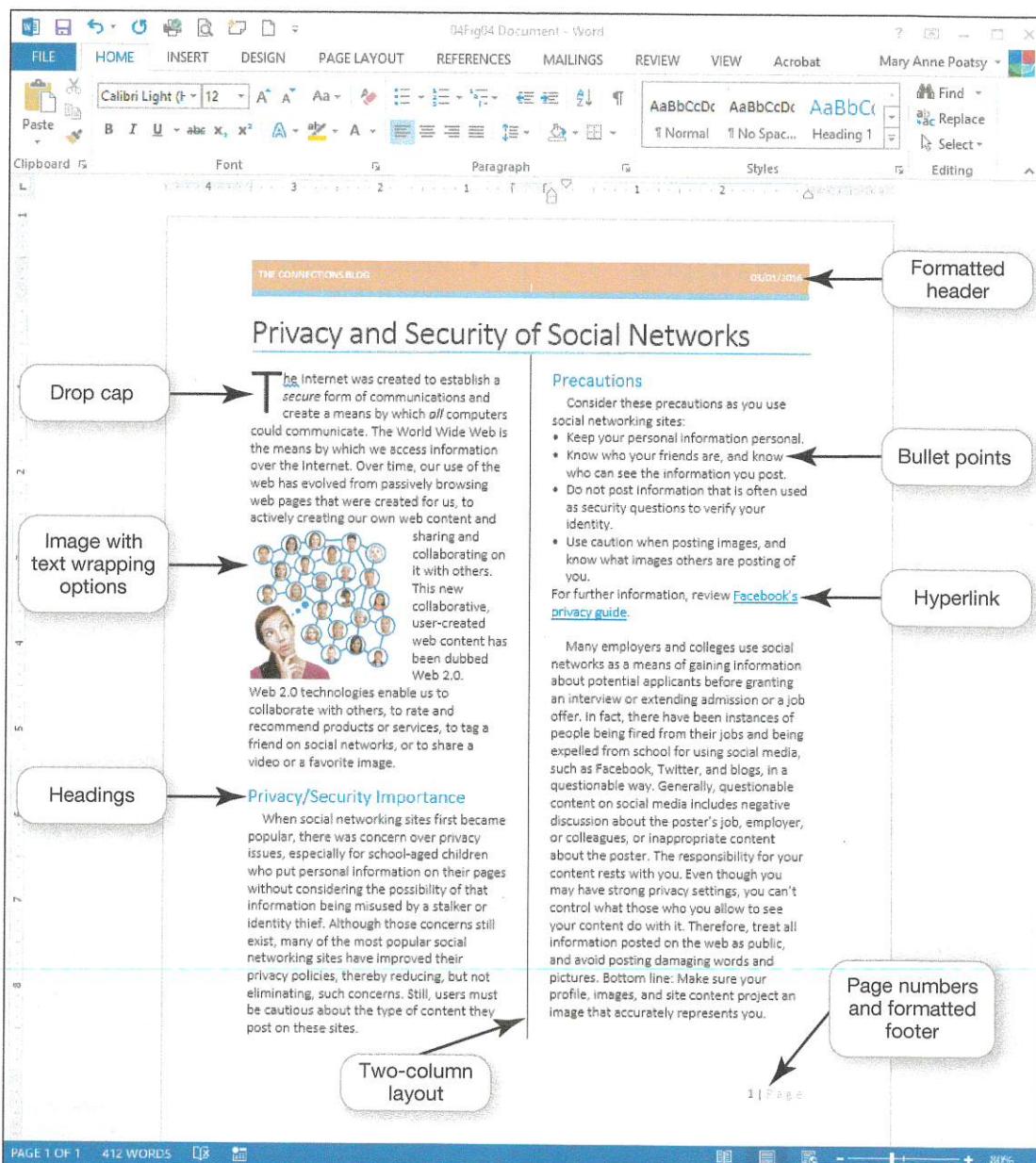
the Save As command, you can save files in other formats, such as .docx for Word.

**What special tools do word processing programs have that I might not know about?** You're probably familiar with the basic tools of word processing software, such as the spelling and grammar checking tools, the thesaurus, and the find-and-replace tool. But did you know you can translate words or phrases into another language or automatically correct your spelling as you type? You also can automatically summarize key points in a text document, add bibliographical references, and include illustrations with different picture styles.

**How can I make my documents look more professional?** With word processing software, you can

easily change fonts, font styles, and sizes; add colors to text; adjust margins; add borders to portions of text or to entire pages; insert bulleted and numbered lists; and organize your text into columns. You also can insert pictures from your own files or from a gallery of images and graphics, such as clip art and SmartArt, which are included with the software.

You also can enhance the look of your document by creating an interesting background or by adding a "theme" of coordinated colors and styles. Figure 4.4 shows what a document can look like when you apply formatting options found in many word processing applications. (Note that although many of the open source and web-based applications have great formatting capabilities, most are not as fully featured as the installed version of Microsoft Word.)



**FIGURE 4.4** Nearly every word processing application has formatting features that let you give your documents a professional look.

# BITS & BYTES

## Finding the Right Software

There are millions of applications, and new ones are developed and released every day. How can you find the right ones to meet your needs? What are the cool new applications or the ones that just don't work? The editors and analysts at *PC Magazine* have put together AppScout ([appscout.pcmag.com](http://appscout.pcmag.com)), a site that provides reviews of the best software, websites, and web applications. Next time you're looking for a new application, check out AppScout.

## Spreadsheet Software

### Why would I use spreadsheet software?

**Spreadsheet software** is software that lets you make calculations and perform numerical analyses. You can use it to track your expenses or create a simple budget, as shown in Figure 4.5a, for example. Microsoft Excel and Apache OpenOffice Calc are two examples of spreadsheet software. (Web-based options are available within the Google Drive and Office Online suites.) One benefit of spreadsheet software is that it can automatically recalculate all formulas and functions in a spreadsheet when values for some of the inputs change.

Figure 4.5 consists of two side-by-side screenshots of Microsoft Excel spreadsheets, labeled 'a' and 'b'. Both spreadsheets show a 'College Cash Flow' budget for Sept, Oct, and Nov.

**Screenshot a:** This shows a standard budget with formulas. The 'Total Income' row uses =SUM(B10:B16) and the 'Net Income' row uses =D8-D17. A callout points to the formula in cell D18 with the text 'Function: =SUM(B10:B16)'.

**Screenshot b:** This screenshot shows the same budget after a 'Membership' row has been inserted between rows 17 and 18. The 'Financial aid' value in cell B6 has been reduced from 1,500 to 500. The 'Total Income' row now uses =SUM(B10:B17) and the 'Net Income' row now uses =D8-D17. Callouts point to the reduced value in cell B6 with 'Values' and to the changed formulas in cells D18 and D19 with 'Formula: =D8-D17'.

**Callouts for Screenshot b:**

- "Membership" row inserted (points to the new row 15)
- Results of recalculated formulas (points to the updated values in rows 18 and 19)

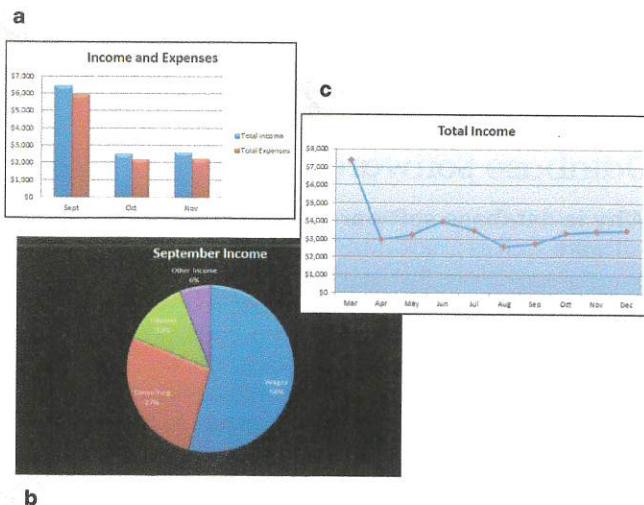
**FIGURE 4.5** Spreadsheet software lets you easily calculate and manipulate numerical data with the use of built-in formulas.

For example, as shown in Figure 4.5b, you can insert an additional row in your budget ("Membership") and change a value (for September Financial aid), and the results for "Total Expenses" and "Net Income" recalculate automatically.

Because automatic recalculation lets you immediately see the effects different options have on your spreadsheet, you can quickly test different assumptions. This is called *what-if analysis*. Look again at Figure 4.5b and ask, "If I don't get as much financial aid next semester, what impact will that have on my total budget?" The recalculated cells in rows 18 and 19 help answer your question. In addition to financial analysis, many spreadsheet applications have limited database capabilities to sort, filter, and group data.

**How do I use spreadsheet software?** The basic element in a spreadsheet program is the *worksheet*, which is a grid consisting of columns and rows. As shown in Figure 4.5a, the columns and rows form individual boxes called *cells*. Each cell can be identified according to its column and row position. For example, a cell in column A, row 1 is referred to as cell A1. You can enter several types of data into a cell:

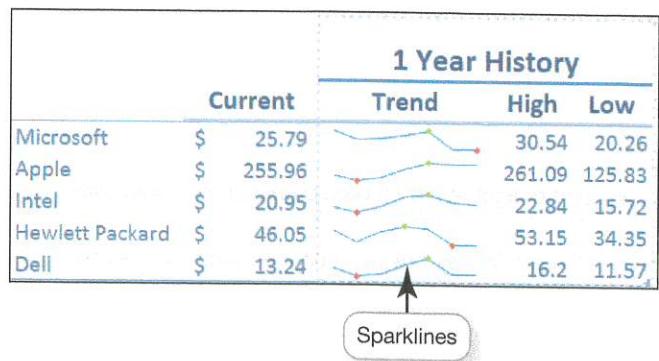
- **Text:** Any combination of letters, numbers, symbols, and spaces. Text is often used as labels to identify the contents of a worksheet or chart.
- **Values and Dates:** Numerical data that represents a quantity or a date/time and is often the basis for calculations.
- **Formulas:** Equations that use addition, subtraction, multiplication, and division operators, as well as values and cell references. For example, in Figure 4.5a, you would use the formula =D8-D17 to calculate net income for November.



**FIGURE 4.6** (a) Column charts show comparisons. (b) Pie charts show how parts contribute to the whole. (c) Line charts show trends over time. (*Column charts show comparisons., N/A; Pie charts show how parts contribute to the whole., N/A; Line charts show trends over time.,*)

- **Functions:** Formulas that are preprogrammed into the spreadsheet software. Functions help you with calculations ranging from the simple (such as adding groups of numbers) to the complex (such as determining monthly loan payments), without requiring you to know the exact formula. In Figure 4.5a, to calculate the total of all expenses for September, you could use the built-in addition function, which would look like this: =SUM(B10:B16).

**What kinds of graphs and charts can I create with spreadsheet software?** As shown in Figure 4.6, most



**FIGURE 4.7** Sparklines are tiny graphs that fit into a single cell. (*Sparklines are tiny graphs that fit into a single cell., N/A*)

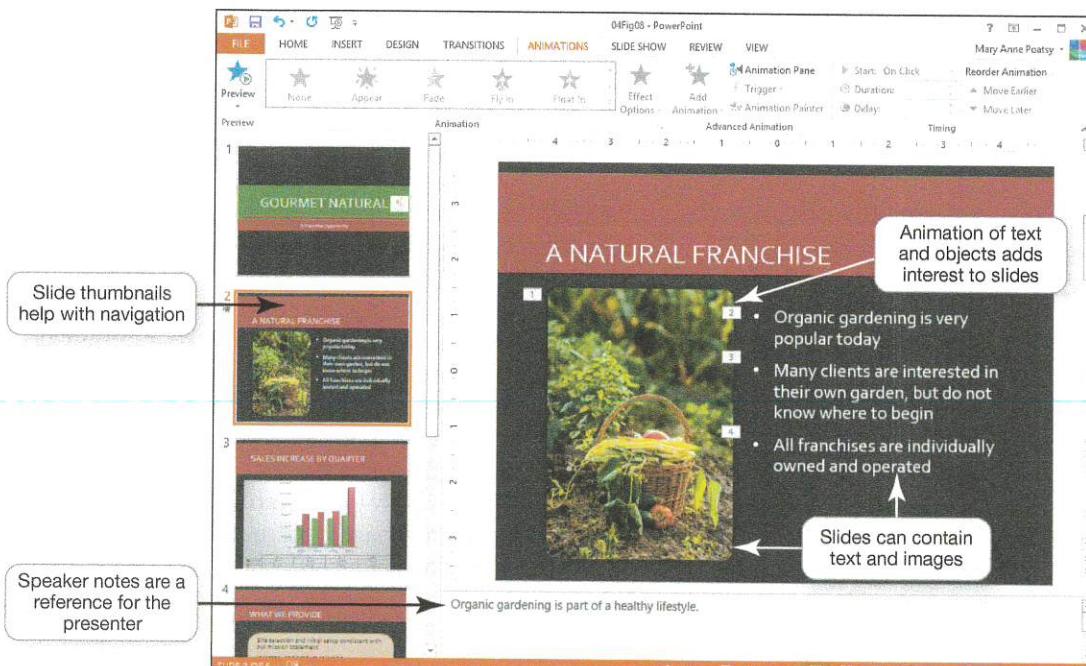
spreadsheet applications let you create a variety of charts, including basic column charts, pie charts, and line charts, with or without 3-D effects. In addition to these basic charts, you can make stock charts (for investment analysis) and scatter charts (for statistical analysis) or create custom charts. A newer feature in Excel is **sparklines**—small charts that fit into a single cell and make it easy to show data trends (see Figure 4.7).

## Presentation Software

### How can software help with my presentations?

You've no doubt sat through presentations where the speaker used **presentation software** such as Microsoft PowerPoint (see Figure 4.8) to create a slide show. Because these applications are simple to use, you can produce high-quality presentations without a lot of training. With some of the capabilities in PowerPoint, you can embed online videos, add effects, and even trim video clips without the need for a separate video-editing program.

**FIGURE 4.8** You can use Microsoft PowerPoint to create dynamic presentations.



### What are some tips to make a great presentation?

Undoubtedly, you've seen at least one bad presentation. Don't make your audience suffer through another one! Here are some tips for designing good presentations:

- *Be careful with color:* Choose dark text on a light background or light text on a dark background. Avoid using clashing text and background colors.
- *Use bullets for key points:* Limit the number to four to six bulleted points per slide. Avoid full sentences and paragraphs.
- *Use images:* Images can convey a thought or illustrate a point. Make sure any text over an image can be read easily.
- *Consider font size and style:* Keep the font size large enough to read from the back of the room. Avoid script

or fancy font styles. Use only one or two font styles per presentation.

- *Keep animations and/or background audio to a minimum:* They can be distracting (see Figure 4.9).

### Database Software

#### Why is database software useful? Database

**software** such as Oracle, MySQL, and Microsoft Access are powerful applications that let you store and organize data. As mentioned earlier, spreadsheet applications are easy to use for simple tasks such as sorting, filtering, and organizing data. However, you need to use a more robust, fully featured database application to manage larger and more complicated data that is organized in more than one table; to group, sort, and retrieve data; and to generate reports. Traditional databases are organized into *fields*, *records*, and *tables*, as shown in Figure 4.10.

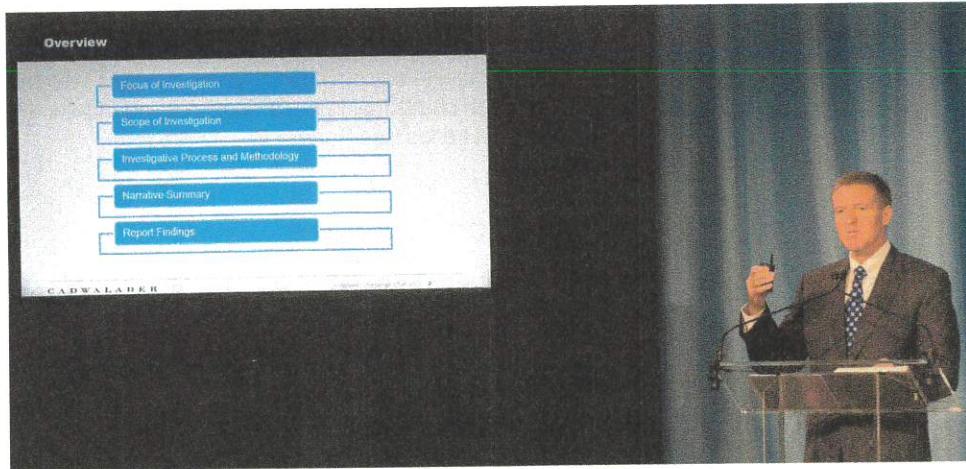


FIGURE 4.9 PowerPoint is a tool that, when used properly, can add organization and clarity to a presentation.

## BITS&BYTES

### Alternatives to PowerPoint

PowerPoint is generally the go-to application for creating presentation visual aids. But there are several applications that offer a compelling alternative to PowerPoint that are worth a closer look. One cool alternative is Prezi ([prezi.com](http://prezi.com)), a web-based program that uses an innovative way to produce presentations. Rather than using a set of slides, Prezi uses a large canvas in which you connect ideas. By using the zoom and navigation features, you can move over the canvas, focusing on individual aspects, then zoom in on the finer details and zoom out to see the bigger concept. You can add videos as well as rotate the canvas for added visual interest.

Since images often make the presentation, consider using HaikuDeck ([www.haikudeck.com](http://www.haikudeck.com)). This app has search tools that match your slide content to a wealth of free art to illustrate your presentations. PowToon ([www.powtoon.com](http://www.powtoon.com)) provides a library of cartoon-like characters that are easily animated to give your presentations more of a “storytelling” aspect rather than fact delivery. PowToon can be converted to video clips and then displayed on the web. Apache OpenOffice Impress and Zoho Show ([www.zoho.com](http://www.zoho.com)) are good open source and web-based alternatives, respectively, and are fairly similar to PowerPoint.

ID	FirstName	LastName	Company	Street	City	State	ZipCode
1	Susan	Scantosi	eWidget Plus	363 Rogue Street	St. Louis	MO	63136
2	Thomas	Mazeman	BooksRUs	2165 Piscotti Avenue	Springfield	IL	62702
3	Douglas	Seaver	Printing Solutions	7700 First Avenue	Topeka	KS	66603
4	Amir	Raviv	TechStands	1436 Riverfront Road	St. Louis	MO	63136
5	Franklin	Scott	WorksSuite	8789 Ploughman Ave	Tulsa	OK	74101
6	Ronald	Komeika	Creekside Financial	1264 Pond Hill Road	Toledo	OH	43601
7	Barbara	Mitchell	Market Tenders	9823 Bridge Street	La Porte	IN	46350

**FIGURE 4.10** In databases, information is organized into fields, records, and tables.

### How do businesses use database software?

Websites like Amazon, iTunes, eBay, and Pandora all rely on databases to keep track of products, clients, invoices, and personnel information. Often, some of that information is available to a home computer user. For example, at Amazon, you can access the history of all the purchases you've ever made on the site. FedEx, UPS, and other shipping companies also let you search their online databases for tracking numbers, allowing you to get instant information on the status of your packages.

OneNote, and you can search for a term across all the digital notebooks you created during the semester to find common ideas such as key points that might appear on a test. There is also a OneNote app for the iPhone and iPad.

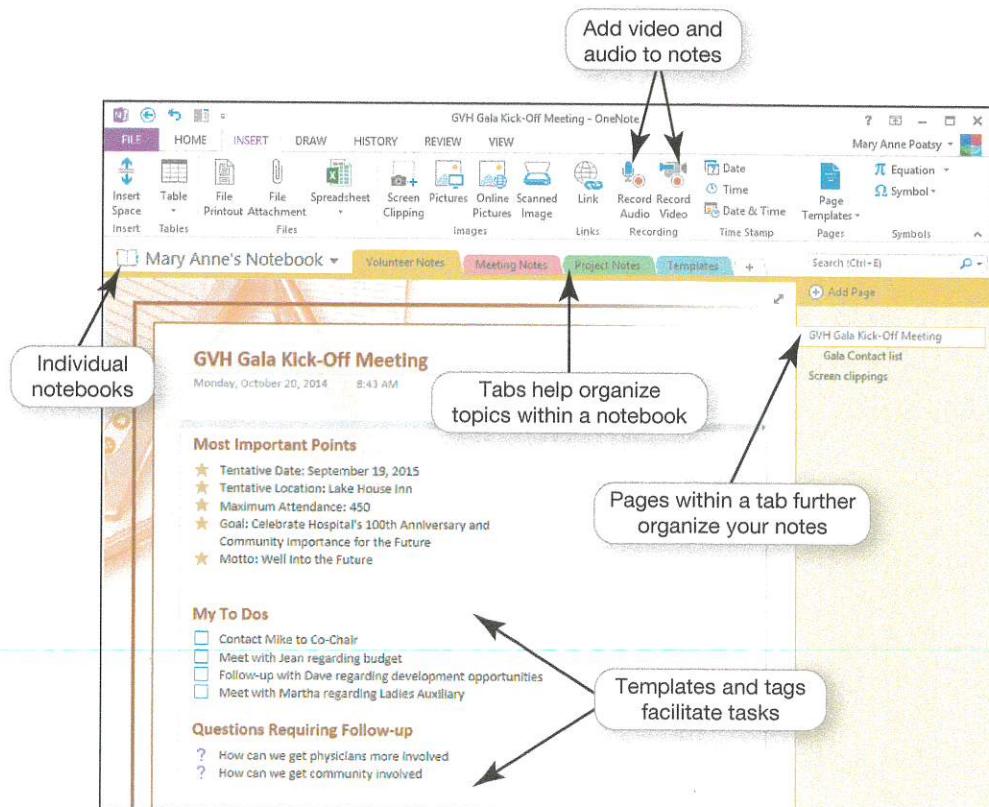
Several very good and functional free and online note-taking options are also available to help you take notes or to just jot down a quick reminder. Evernote ([evernote.com](http://evernote.com)), for example, lets you take notes via

## Note-Taking Software

### Is there software to help me take notes?

Microsoft OneNote is a popular note-taking and organizational tool you can use for research, brainstorming, and collaboration, as well as just organizing random bits of information. Using OneNote, you can organize your notes into tabbed sections (see Figure 4.11). In addition, you can access your OneNote notes from other Microsoft Office applications. For example, if you're writing a research paper in Word, click the OneNote icon in the Word ribbon to open OneNote, where you can add your notes—perhaps a reference to a website where you found some interesting research. Later, if you open OneNote and click on that reference, it will bring you to the exact spot in the Word document where you made the reference.

You can also add audio or video recordings of lectures to



**FIGURE 4.11** Microsoft OneNote is a great way to collect and organize notes and other information. The files are readily searchable and easy to share.

the web, your phone, or your computer and then sync your notes between your devices. You can then share your notes with other Evernote users for easy collaboration. Figure 4.12 lists some popular alternative note-taking applications.

## Personal Information Manager Software

**How can software help me manage my e-mail, time, contact lists, and tasks?** Most productivity suites contain some form of **personal information manager (PIM) software** to help you manage e-mail, contacts, calendars, and tasks in one place. Microsoft Outlook (see Figure 4.13) is the most widely used PIM program. If you share a network at home or at work and are using the same PIM software as others on a common network, a PIM program simplifies sharing calendars and scheduling meetings.

Many web-based e-mail clients, such as Yahoo! and Google, also include coordinating calendar and contacts similar to Microsoft Outlook. Yahoo! includes Notepad for jotting down notes and tasks. Google's calendar and contacts sync with Outlook so you can access your Outlook calendar information by logging into Google. This gives you access to your schedule anywhere you have access to a computer and an Internet connection.

There are a wide variety of other to-do lists and simple organizers that work with all your mobile and computing devices. For example, Toodledo ([toodledo.com](http://toodledo.com)) is a free program that coordinates well with Microsoft Outlook, and OmniFocus ([omnifocus.com](http://omnifocus.com)) is a more full-featured option for Mac devices.

FIGURE 4.12

### Beyond Microsoft OneNote: Alternative Note-Taking Applications

- Evernote ([evernote.com](http://evernote.com))**
  - Web-based
  - Notes can be shared for easy collaboration
  - Syncs notes between all devices
  
- AudioNote ([luminantsoftware.com](http://luminantsoftware.com))**
  - Synchronized note taking and audio recording
  - Allows text or handwritten notes
  - Highlights notes during playback
  
- Simplenote ([simplenote.com](http://simplenote.com))**
  - Web-based, open source
  - Notes organized by tags
  - Mobile apps available
  
- Noteability ([gingerlabs.com](http://gingerlabs.com))**
  - PDF annotations
  - Advanced word processing
  - Linked audio recordings to notes
  - Auto-sync notes between devices

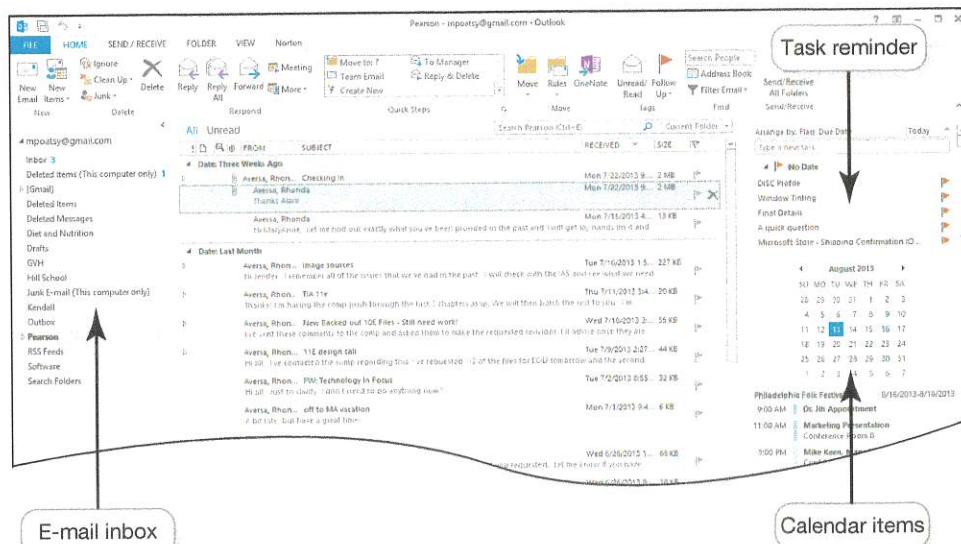


FIGURE 4.13 Microsoft Outlook includes common PIM features, such as a summary of appointments, a list of tasks, and e-mail messages.

# BITS & BYTES

## Productivity Software Tips and Tricks

Looking for tips on how to make better use of your productivity software? Some websites send subscribers periodic e-mails full of tips, tricks, and shortcuts for their favorite software programs:

- Microsoft's website includes many tips and tricks for its Office applications ([office.microsoft.com](http://office.microsoft.com)).
- MakeTechEasier ([maketecheasier.com](http://maketecheasier.com)) has tidbits for a variety of applications, including Windows and Mac products, Apache OpenOffice, and cellphone applications.
- GCFLearnFree.org ([gcflearnfree.org](http://gcflearnfree.org)) offers free instructional tutorials on a variety of technology topics, including Microsoft Office applications.
- You can also find tips as videos online. To take any videos from YouTube, TED, and other websites on the road with you for future off-line reference, check out Video Downloader ([appsneon.com](http://appsneon.com)) to download, convert, and copy videos to your personal media player.

## Microsoft Office Productivity Software Features

### What tools can help me work more efficiently with productivity software?

Whether you're working on a word processing document, spreadsheet, database, or slide presentation, you can make use of several tools to increase your efficiency:

- A **wizard** walks you through the steps necessary to complete a complicated task. At each step, the wizard asks you questions. Based on your responses, the wizard helps you complete that portion of the task. When you install software, you're often guided by a wizard.
- A **template** is a predesigned form. Templates are included in many productivity applications. They provide the basic structure for a particular kind of document, spreadsheet, database, or presentation. Templates can include specific page layout designs, formatting and styles relevant to that particular document, and automated tasks (macros).
- A **macro** is a small program that groups a series of commands so that they will run as a single command. Macros are best used to automate a routine task or a complex series of commands that must be run frequently. For example, a teacher may write a macro to sort the grades in her grade book in

descending order and to highlight grades that add up to less than a C average. Every time she adds the results of an assignment or a test, she can set up the macro to run through this series of steps.

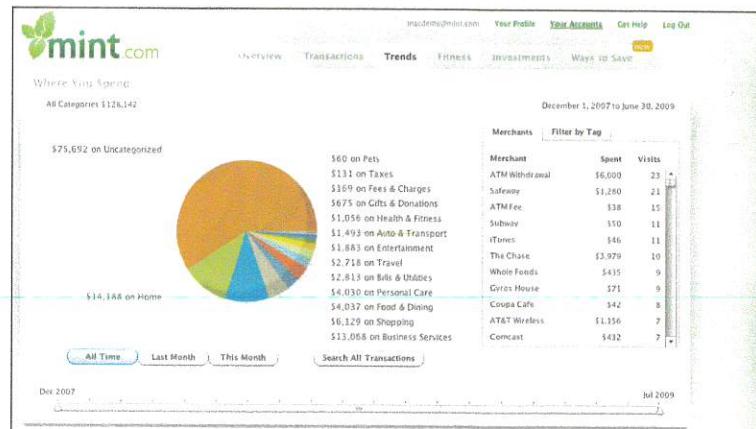
## Personal Financial Software

**How can I use software to keep track of my finances?** **Financial planning software** helps you manage your daily finances. Financial planning programs include electronic checkbook registers and automatic bill payment tools. With these features, you can make recurring monthly payments, such as rent or student loans, with automatically scheduled online payments. The software records all transactions, including online payments, in the checkbook register. In addition, you can assign categories to each transaction and then use these categories to create budgets and analyze your spending patterns.

Intuit's installed and web-based products, Quicken and Mint ([mint.com](http://mint.com)), respectively, are the market leaders in financial planning software (see Figure 4.14). Both are great at tracking and analyzing your spending habits and at offering advice on how to better manage your finances. With either, you also can track your investment portfolio. With Mint, you can monitor and update your finances from any computer with a private and secure setting. You can also access Mint on a smartphone or tablet, so your information is conveniently accessible. Mint also provides access to a network of other users with whom to exchange tips and advice.

### What software can I use to prepare my taxes?

**Tax preparation software**, such as Intuit TurboTax and H&R Block At Home, lets you prepare your state and federal taxes on your own instead of hiring a professional. Both programs offer a complete set of tax forms and instructions, as well as videos that contain expert advice on how to complete each form. Each company also offers free web-based versions of federal forms and instructions. In addition, error-checking features are built into the programs to catch mistakes. TurboTax



**FIGURE 4.14** Mint ([mint.com](http://mint.com)) is an online financial management tool. An extensive online community provides helpful tips and discussions with other people in similar situations. (Reprinted with permission © Intuit Inc. All rights reserved.)

As noted in the chapter, when you purchase software, you're purchasing a license to use it rather than purchasing the actual software. That license tells you how many times you can install the software, so it is important to read it. If you make more copies of the software than the license permits, you're participating in **software piracy** (see Figure 4.15). Historically, the most common way software has been pirated has been by borrowing installation CDs from others and installing the software on other computers. Larger-scale illegal duplication and distribution by counterfeiters are quite common as well. In addition, the Internet provides various ways to copy and distribute pirated software illegally.

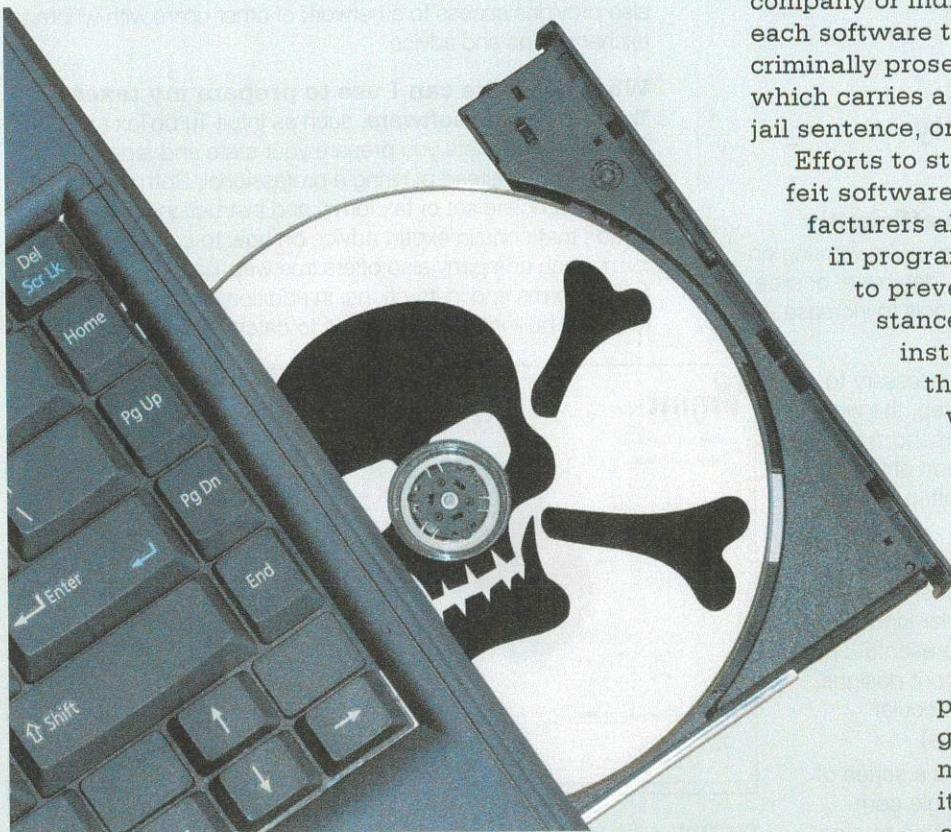
Is it really a big deal to copy a program or two? As reported by the Business Software Alliance, nearly half of all software used is pirated. Not only is pirating software unethical and illegal, the practice has financial impacts on all software

consumers. The financial loss to the software industry is estimated to be over \$50 billion. This loss decreases the amount of money available for further software research and development, while increasing the up-front costs to legitimate consumers.

To determine whether you have a pirated copy of software installed on your computer, conduct a software audit. The Business Software Alliance website ([bsa.org](http://bsa.org)) has several free third-party software audit tools that help you identify and track software installed on your computer and networks. These programs check the serial numbers of the software installed on your computer against software manufacturer databases of officially licensed copies and known fraudulent copies. Any suspicious software installations are flagged for your attention.

As of yet, there's no such thing as an official software police force, but if you're caught with pirated software, severe penalties do exist. A company or individual can pay up to \$150,000 for each software title copied. In addition, you can be criminally prosecuted for copyright infringement, which carries a fine of up to \$250,000, a five-year jail sentence, or both.

Efforts to stop groups involved with counterfeit software are in full force. Software manufacturers also are becoming more aggressive in programming mechanisms into software to prevent illegal installations. For instance, with many Microsoft products, installation requires you to activate the serial number of your software with a database maintained at Microsoft. This is different from the traditional "registration" that enrolled you voluntarily and allowed you to be notified of product updates. Failure to activate your serial number or attempting to activate a serial number used previously results in the software going into a "reduced functionality mode" after the 50th time you use it. Therefore, without activation or after activating a used serial number, you would not be able to save documents in Office.



**FIGURE 4.15** Making more copies than the software license permits is pirating and is illegal. (Gor Pore/Getty Images)

can also run a check for audit alerts, file your return electronically, and offer financial planning guidance to help you plan and manage your financial resources effectively in the following year (see Figure 4.16).

Some financial planning applications also coordinate with tax preparation software. Both Quicken and Mint, for example, integrate seamlessly with TurboTax, so you never have to go through your debit card statements and bills to find tax deductions, tax-related income, or expenses. Many banks and credit card companies also offer online services that download a detailed monthly statement into Quicken and Mint. Remember, however, that the tax code changes annually, so you must obtain an updated version of the software each year.

## Small Business Software

**What kinds of software are helpful for small business owners?** If you have a small business or a hobby that produces income, you know the importance of keeping good records and tracking your expenses and income. **Accounting software** helps small business owners manage their finances more efficiently by providing tools for tracking accounts receivable and accounts payable. In addition, these applications offer inventory management, payroll, and billing tools. Examples of accounting applications are Intuit QuickBooks and Sage 50. Both programs include templates for invoices, statements, and financial reports so that small business owners can create common forms and reports.

If your business requires the need for newsletters, catalogs, annual reports, or other large, complicated publications, consider using **desktop publishing (DTP) software**. Although many word processing applications include some of the features that are hallmarks of desktop publishing, specialized DTP software, such as Microsoft Publisher,

QuarkXPress, and Adobe InDesign, allows professionals to design books and other publications that require complex layouts.

### What software do I use to create a web page?

**Web authoring software** allows even the novice to design interesting and interactive web pages without knowing any HTML code. Web authoring applications often include wizards, templates, and reference materials to help novices complete most web authoring tasks. More experienced users can take advantage of these applications' advanced features to make the web content current, interactive, and interesting. Microsoft Expression Web and Adobe Dreamweaver are two programs that both professionals and casual web page designers use.

Note that if you need to produce only the occasional web page, you'll find that many applications include features that let you convert your document into a web page. For example, in some Microsoft Office applications, you can choose to save a file as a web page.

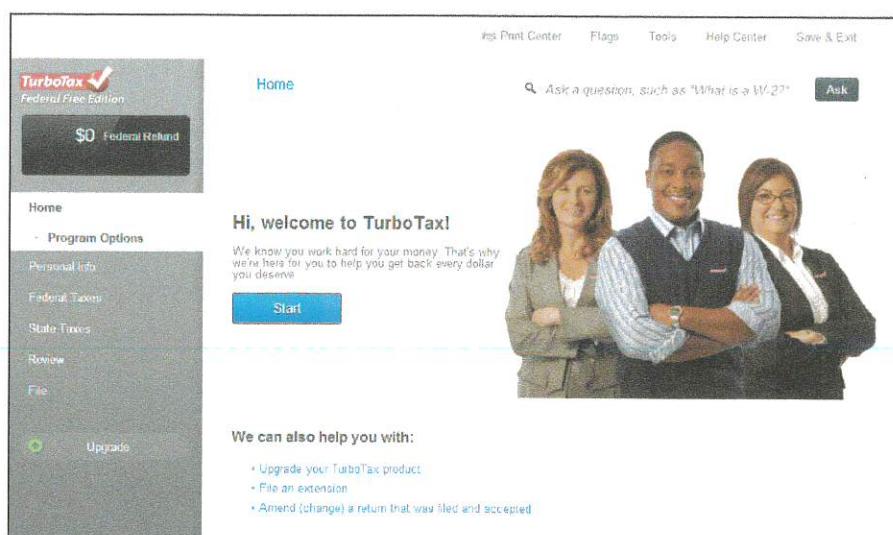
## Software for Large and Specialized Businesses

### What types of software do large businesses use?

There is an application for almost every aspect of business. There are specialized programs for project management software, customer relationship management (CRM), enterprise resource planning (ERP), e-commerce, marketing and sales, finance, point of sale, security, networking, data management, and human resources, to name just a few. Figure 4.17 lists many of the common types of business-related software. Some applications are tailored to the specific needs of a particular company or industry. Software designed for a specific industry, such as property management software for real estate professionals, is called **vertical market software**.

**What software is used to make 3-D models?** Engineers use **computer-aided design (CAD)** programs such as Autodesk's AutoCAD to create automated designs, technical drawings, and 3-D model visualizations. Here are some cool applications of CAD software:

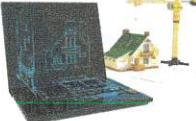
- Architects use CAD software to build virtual models of their plans and readily visualize all aspects of design before actual construction.
- Engineers use CAD software to design everything from factory components to bridges. The 3-D nature of these programs lets engineers rotate their models and adjust their designs if necessary, eliminating costly building errors.
- CAD software also is used in conjunction with GPS devices for accurate placement of fiber optic networks around the country.



**FIGURE 4.16** Tax preparation software such as Intuit TurboTax lets you prepare and file your taxes using a guided, systematic process. (Reprinted with permission © Intuit Inc. All rights reserved.)

FIGURE 4.17

## Common Types of Large Business-Related Software

PROJECT MANAGEMENT	CUSTOMER RELATIONSHIP MANAGEMENT (CRM)	ENTERPRISE RESOURCE PLANNING (ERP)
<b>PROJECT MANAGEMENT</b> 	<b>CUSTOMER RELATIONSHIP MANAGEMENT (CRM)</b> 	<b>ENTERPRISE RESOURCE PLANNING (ERP)</b> 
<b>E-COMMERCE</b> 	<b>COMPUTER-AIDED DESIGN (CAD)</b> 	<b>VERTICAL MARKET</b> 
Creates scheduling charts to plan and track specific tasks and to coordinate resources	Stores sales and client contact information in one central database	Controls many "back office" operations and processing functions such as billing, production, inventory management, and human resources management

John T Takai/Shutterstock; Eltor69/Shutterstock; Designdepot Ltd/Shutterstock; Heider Almeida/Shutterstock; Cybrain/Shutterstock; Nmedia/Shutterstock

## BITS&BYTES

### Need to Work on Files Together? Try These Real-Time Collaboration Tools

You're part of a group working together on a project. You could share files via e-mail, but you've found that can lead to confusion, with multiple versions of the document being revised at the same time. Consider some of these other methods to share and collaborate on files:

- Skype ([skype.com](http://skype.com)) lets users work together through video calling and share desktops remotely with other Skype users. This lets two users view the same file at the same time, and the remote user can follow the cursor on the screen of the host user to see exactly what the host user is doing, just as if they were working together in the same room.

- Google Drive ([drive.google.com](http://drive.google.com)), Office Online, and wikis allow multiple users to work together in real time on the same document and to communicate with project members via live text chat.
- Scribblar ([scribblar.com](http://scribblar.com)) is a multiuser whiteboard with live audio chat, which is great for holding virtual brainstorm sessions.
- Dropbox ([dropbox.com](http://dropbox.com)), OneDrive ([onedrive.com](http://onedrive.com)), and Google Drive ([drive.google.com](http://drive.google.com)) are online file storage systems that enable you to share files with others in addition to keeping files synced with any Internet-connected device.

- The medical engineering community uses CAD software to create anatomically accurate solid models of the human body, developing medical implants quickly and accurately. The list of CAD applications keeps growing as more and more industries realize the benefits CAD can bring to their product development and manufacturing processes. ■

#### Before moving on to Part 2:

- Watch Replay Video 4.1 .
- Then check your understanding of what you've learned so far.

## check your understanding // review & practice

For a quick review to see what you've learned so far, answer the following questions. Visit [pearsonhighered.com/techinaction](http://pearsonhighered.com/techinaction) to check your answers.

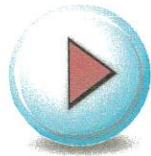
### multiple choice

1. Software that is available on demand via the Internet is called
  - a. proprietary software.
  - b. Software as a Service (SaaS).
  - c. productivity software.
  - d. open source software.
2. Software that allows an individual to track financial transactions is called
  - a. checking software.
  - b. tax planning software.
  - c. personal financial software.
  - d. small business accounting software.
3. Which type of program takes advantage of automatic recalculation and what-if analysis?
  - a. spreadsheet
  - b. database
  - c. CAD/CAM
  - d. project management
4. Which of the following is true about open source software?
  - a. The program code is confidential.
  - b. The program can be changed and is freely distributed.
  - c. The program can be freely distributed as long as the program code is not changed.
  - d. The program code is subject to copyright protection.
5. Which program can you use to take notes in class?
  - a. Noteability
  - b. Evernote
  - c. OneNote
  - d. all of the above

To take an autograded version of this review, please go to the companion website at [pearsonhighered.com/techinaction](http://pearsonhighered.com/techinaction), or go your MyITLab course.

Continue 

# TRY THIS



## Citing Website Sources

You've been assigned a research paper, and your instructor requires citations and a bibliography. In the past, you might have resorted to using websites such as Son of Citation Machine ([citationmachine.net](http://citationmachine.net)) or EasyBib ([easybib.com](http://easybib.com)) to create your citations and generate a bibliography. But did you know there are tools built right into Microsoft Word that do the same thing?

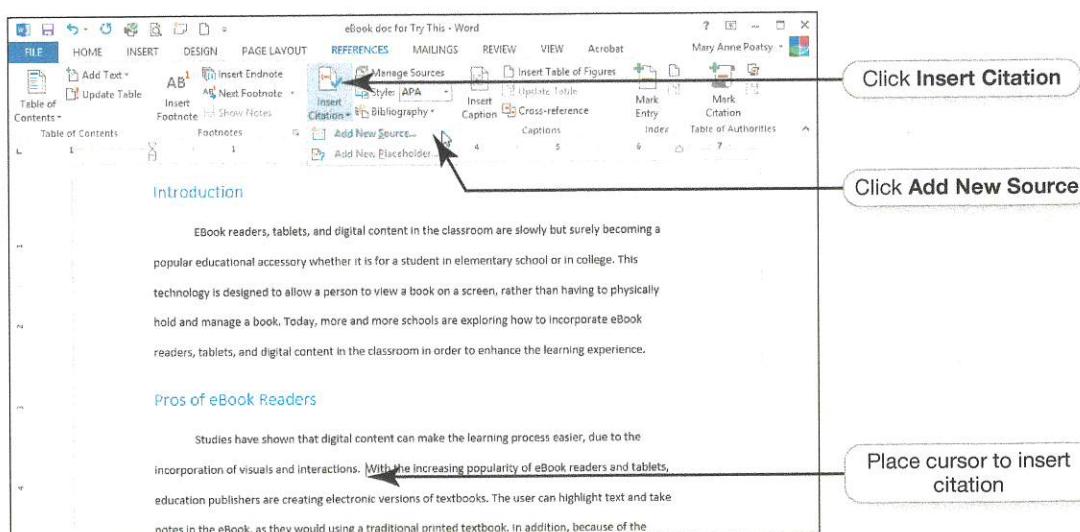
### To Add a New Citation and Source to a Document:

**Step 1** Click at the end of the sentence or phrase that you want to cite.

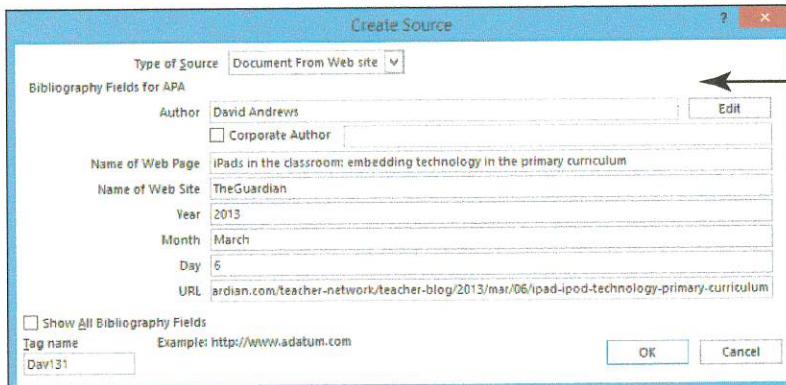
**Step 2** On the References tab, in the Citations & Bibliography group, click **Insert Citation**.

**Step 3** To add the source information, click **Add New Source**.

Note: To create a citation and fill in the source information later, click **Add New Placeholder**.



**Step 4** Begin to fill in the source information by clicking the arrow next to Type of Source.



**Step 5** The citation will appear in your document.

