CHAPTER 1 REVIEW ACTIVITIES

KEY TERM MATCHING

Instructions: Match each key term on the left with the definition on the right that best describes it.

1. _____ A collection of related Web pages usually belonging to an organization or individual.
2. _____ An Internet address, usually beginning with http://, that uniquely identifies a Web page.
3. _____ A programmable, electronic device that accepts data input, performs processing operations on that data, and outputs and stores the results.
4. _____ A very small notebook computer.
5. _____ Performing operations on data that have been input into a computer to convert that input to output.
6. _____ The operation of saving data, programs, or output for future use.
7. _____ The fastest, most expensive, and most powerful type of computer.
8. _____ The instructions, also called computer programs, that are used to tell a computer what it should do.
9. _____ The largest and most well-known computer network, linking millions of computers all over the world.
10. _____ The physical parts of a computer system, such as the keyboard, monitor, printer, and so forth.

SELF-QUIZ

Instructions: Circle T if the statement is true, F if the statement is false, or write the best answer in the space provided. Answers for the self-quiz are located in the References and Resources Guide at the end of the book.

1. T F A mouse is one common input device.
2. T F Software includes all the physical equipment in a computer system.
3. T F A computer can run without an operating system if it has good application software.
4. T F One of the most common types of home computers is the midrange server.
5. T F An example of a domain name is microsoft.com.
6. _____ is the operation in which data is entered into the computer.
7. A(n) _____ computer can come in convertible or slate form.
8. _____ is frequently used with servers today to create several separate environments on a single server that act as separate servers.
9. Electronic messages sent over the Internet that can be retrieved by the recipient at his or her convenience are called _____.
10. Write the number of the term that best matches each of the following descriptions in the blank to the left of its description.

   a. _______ Allows access to resources located on the Internet.
   b. _______ Supervises the running of all other programs on the computer.
   c. _______ Enables users to perform specific tasks on a computer.
   d. _______ Allows the creation of application programs.

1. For the following list of computer hardware devices, indicate the principal function of each device by writing the appropriate letter—І (input device), O (output device), S (storage device), P (processing device), or C (communications device)—in the space provided.

   a. CPU _______ d. Keyboard _______ g. Speakers _______
   b. Monitor _______ e. Hard drive _______ h. DVD drive _______
   c. Mouse _______ f. Modem _______ i. Microphone _______

2. Supply the missing words to complete the following statements.

   a. The Internet is an example of a(n) _______ a collection of computers and other devices connected together to share resources and communicate with each other.
   b. The starting page for a Web site is called the site’s _______.
   c. For the e-mail address jsmith@cengage.com, jsmith is the _______ and cengage.com is the _______ name.
   d. The e-mail address pronounced bill gee at microsoft dot com is written _______.

3. What are three differences between a desktop computer and an ultra-mobile PC (UMPC)?

4. List two reasons why a business may choose to network its employees’ computers.

5. If a computer manufacturer called Apex created a home page for the Web, what would its URL likely be? Also, supply an appropriate e-mail address for yourself, assuming that you are employed by that company.

1. There is usually a positive side and a negative side to each new technological improvement. Select a technology you use every day and consider its benefits and risks. What benefits does the technology provide? Are there any risks involved and, if so, how can they be minimized? If you chose not to use this technology because of the possible risks associated with it, how would your life be affected? Who should determine if the benefits of a new technology outweigh the potential risks? Consumers? The government?

2. The ubiquitous nature of mobile phones today brings tremendous convenience to our lives, but will misuse of new improvements to this technology result in the loss of that convenience? For instance, camera phones are now banned in many fitness centers, park restrooms, and other similar facilities because some people have used them inappropriately to take compromising photos, and mobile phones are banned in many classrooms because of the disruption of constant text messaging and the use of the phone by dishonest students to cheat on exams. Do you think these reactions to mobile phone misuse are justified? Is there another way to ensure the appropriate use of mobile phones without banning their use for all individuals? Should there be more stringent consequences for those who use technology for illegal or unethical purposes?
CHAPTER 1  PROJECTS

HOT TOPICS

1. Mobile TV As discussed in this chapter, TV is one of the newest entertainment options available for mobile phones. From live TV to video clips and movies, mobile TV is taking off.

For this project, investigate the mobile TV options available today. Find at least two services and compare features, such as cost, compatibility, channels, and programming. Do your selected services offer live TV, video-on-demand, or both? If you have a mobile phone, are any of the services available through your mobile provider? Are there currently Web sites where mobile users can view episodes of TV shows for free, like personal computer users can? What is the current status of the push by the Open Mobile Video Coalition to have a free mobile TV standard across the United States? Have you ever watched TV on a mobile phone? If so, how do you rate your experience and would you do it again? If not, would you want to watch TV on a mobile phone? Do you think mobile TV is the wave of the future? Why or why not? At the conclusion of your research, prepare a one-page summary of your findings and opinions and submit it to your instructor.

SHORT ANSWER/RESEARCH

2. Buying a New PC New personal computers are widely available directly from manufacturers, as well as in retail, computer, electronic, and warehouse stores. Some stores carry only standard configurations as set up by the manufacturers; others allow you to customize a system.

For this project, assume that you are in the market for a new personal computer. Give some thought to the type of computer (such as desktop, notebook, or netbook computer) that best fits your lifestyle and the tasks you wish to perform (such as the application programs you wish to use, how many programs you wish to use at one time, and how fast you desire the response time to be). Make a list of your hardware and software requirements (refer to the “Guide for Buying a PC” in the References and Resources Guide at the end of this book, if needed), being as specific as possible. By researching newspaper ads, manufacturer Web sites, and/or systems for sale at local stores, find three systems that meet your minimum requirements. Prepare a one-page comparison chart, listing each requirement and how each system meets or exceeds it. Also include any additional features each system has, and information regarding the brand, price, delivery time, shipping, sales tax, and warranty for each system. On your comparison sheet, mark the system that you would prefer to buy and write one paragraph explaining why. Turn in your comparison sheet and summary to your instructor, stapled to copies of the printed ads, specifications printed from Web sites, or other written documentation that you collected during this project.

HANDS ON

3. The Internet The Internet and World Wide Web are handy tools that can help you research topics covered in this textbook, complete many of the projects, and perform the online activities available via the textbook’s Web site that are designed to enhance your learning and help you prepare for exams on the content covered in this textbook.

For this project, find an Internet-enabled computer on your campus, at home, or at your public library and access the Understanding Computers Web site located at www.cengage.com/international. Once you are at the site, note the types of information and activities that are available to you as a student and select a few of them by using your mouse to click the hyperlinks corresponding to the options you want to explore. At the conclusion of this task, prepare a one-page summary describing the resources available through this textbook’s Web site, and your opinion about their usefulness in enhancing your learning experience and/or preparing for exams related to this text, and submit it to your instructor.
4. Gossip Sites A recent trend on college campuses today is the use of campus gossip sites, where students can post campus related news, rumors, and basic gossip. These sites were originally set up to promote free speech and to allow participants to publish comments anonymously without repercussions from school administrators, professors, and other officials. However, they are now being used to post vicious comments about others. What do you think of campus gossip sites? Is it ethical to post a rumor about another individual on these sites? How would you feel if you read a posting about yourself on a gossip site? School administrators cannot regulate the content since the sites are not sponsored or run by the college, and federal law prohibits Web hosts from being liable for the content posted by its users. Is this ethical? What if a posting leads to a criminal act, such as a rape, murder, or suicide? Who, if anyone, should be held responsible?

For this project, form an opinion about the ethical ramifications of gossip Web sites and be prepared to discuss your position (in class, via an online class discussion group, in a class chat room, or via a class blog, depending on your instructor’s directions). You may also be asked to write a short paper expressing your opinion.

5. Traditional vs. Online Education The amount of distance learning available through the Internet and World Wide Web has exploded recently. A few years ago, it was possible to take an occasional course online—now, an entire college degree can be earned online. But are traditional and online educations equal? Do the potential advantages of online education (such as convenience, flexibility, and the ability to take classes when you are not physically located near a university) outweigh the potential disadvantages (such as technological dependency and lack of face-to-face interactions with other students and with instructors)? Will potential employers question the integrity of a degree earned online (where there is more potential for cheating if online exams are used) more than one earned in person? Or does the ability to take a wider range of classes online versus in person put the online student at an advantage?

For this project, consider the pros and cons of online learning versus traditional learning and form an opinion about online education. Be prepared to discuss both sides of this issue and your opinion (in class, via an online class discussion group, in a class chat room, or via a class blog). You may also be asked to write a short paper or prepare a short presentation expressing your opinion, depending on your instructor’s directions.

Instructions: Go to the Chapter 1 page at www.cengage.com/international to work the following Web Activities.

6. Interactive Activities Work the interactive Crossword Puzzle, watch the Video Podcasts and Online Videos, and explore the Further Exploration links associated with this chapter.

If you have a SAM user profile, you may have access to hands-on instruction, practice, and assessment of the skills covered in this chapter. Check with your instructor for instructions and the correct URL/Web site to access those assignments.

7. Student Edition Labs Work the following interactive Student Edition Labs.
   - Using Windows
   - E-Mail
   - Word Processing
   - Spreadsheets
   - Databases
   - Presentation Software

8. Test Yourself Review the Online Study Guide for this chapter, then test your knowledge of the terms and concepts covered in this chapter by completing the Key Term Matching exercise, the Self-Quiz, the Exercises, and the Practice Test.
CHAPTER 2 REVIEW ACTIVITIES

KEY TERM MATCHING

Instructions: Match each term on the left with the definition on the right that best describes it.

1. _______ A device that enables a computer to communicate over telephone lines.

2. _______ A group of 8 bits.

3. _______ An agreement, either included in a software package or displayed on the screen during installation, that specifies the conditions under which a buyer of the program can use it.

4. _______ An input device containing numerous keys that can be used to input letters, numbers, and other symbols.

5. _______ An output device that uses toner powder and technology similar to that of a photocopier to produce images on paper.

6. _______ A small storage device that plugs into a USB port and contains flash memory media.

7. _______ A type of storage medium read from and written to using a laser beam.

8. _______ Something stored on a storage medium, such as a program, a document, or an image.

9. _______ The chip located on the motherboard of a computer that performs the processing for a computer. Also called the processor.

10. _______ The main circuit board of a computer, located inside the system unit, to which all computer system components connect.

SELF-QUIZ

Instructions: Circle T if the statement is true, F if the statement is false, or write the best answer in the space provided. Answers for the self-quiz are located in the References and Resources Guide at the end of the book.

1. T F A storage medium that can hold 256 GB can hold about 256 billion characters.

2. T F A mouse is an example of a pointing device.

3. T F An ink-jet printer normally produces a better image than a laser printer.

4. T F A hybrid hard drive contains both magnetic hard disks and optical discs.

5. T F Changing the font size in a document is an example of a formatting operation.

6. A(n) _______ can be used to convert flat printed documents, such as a drawing or photograph, into digital form.

7. A CPU with four separate processing cores is referred to as a(n) _______ CPU.

8. Secure Digital (SD) cards are one type of _______ medium.

9. Files can be stored inside _______ to keep them organized.

10. Match each input device to its input application, and write the corresponding number in the blank to the left of the input application.

   a. _______ Pen-based computing
   b. _______ Consumer kiosk
   c. _______ Text-based data entry
   d. _______ Secure facility access
   e. _______ Tracking goods

   1. Keyboard
   2. Stylus
   3. RFID tag
   4. Biometric reader
   5. Touch screen
1. Number the following terms from 1 to 6 to indicate their size from smallest to largest.
   a. _______ Petabyte  
   b. _______ Kilobyte  
   c. _______ Byte  
   d. _______ Terabyte  
   e. _______ Gigabyte  
   f. _______ Megabyte

2. For the following list of hardware devices, write the appropriate abbreviation (I, P, O, S, or C) in the space provided to indicate whether each device is used for input (I), processing (P), output (O), storage (S), or communications (C).
   a. _______ Biometric reader  
   f. _______ Display device  
   b. _______ Modem  
   g. _______ USB flash drive  
   c. _______ Speaker  
   h. _______ Microphone  
   d. _______ Photo printer  
   i. _______ Hard drive  
   e. _______ CPU  
   j. _______ Network adapter

3. Supply the missing words to complete the following statements.
   a. The smallest piece of data that can be represented by a computer (0 or 1) is called a(n) _______.
   b. _______ is an international coding system that can be used to represent text-based data in any written language.
   c. A(n) _______ optical disc can hold either 25 GB or 50 GB and is designed for high-definition content, such as movies.

4. List one personal or business application that you believe is more appropriate for a dot-matrix printer, instead of another type of printer, and explain why.

5. Which types of storage media would be appropriate for someone who needed to exchange large (5 MB to 75 MB) files with another person? List at least three different types, stating under what specific conditions each might be the most appropriate type of storage medium to use.

6. People send their digital photos over the Internet in different ways. For instance, digital photos are often e-mailed to others, posted on Facebook pages and other social networking sites, and uploaded to a server (such as one belonging to Snapfish, Wal-Mart, or Costco) in order to order prints, enlargements, or other photo-based items. If you have ever sent photos over the Internet, were you concerned about someone other than the intended recipient intercepting or viewing your photo files? If you have ever uploaded files to a processing service for printing, did you check to see if the Web server being used was secure? Should individuals be concerned about sending their personal photos over the Internet? There are a number of advantages, but are there privacy risks, as well?

7. The choice of an appropriate input device for a product is often based on both the type of device being used and the target market for that device. For instance, a device targeted to college students and one targeted to older individuals may use different input methods. Suppose that you are developing a device to be used primarily for Internet access that will be marketed to senior citizens. What type of hardware would you select as the primary input device? Why? What are the advantages and disadvantages of your selected input device? How could the disadvantages be minimized?
1. Thumb Drive PCs As discussed in the chapter How It Works box, USB flash drives can be used to bring your personal software and settings with you to any computer with which you use that drive. In addition, USB flash drives can be used to securely store files, grant access to a computer, and more.

For this project, research two features that USB flash drives can provide, in addition to plain data storage. For your selected features, determine what the feature does, how it works, what benefits it provides, and some examples of USB flash drives that are currently being sold that include that feature. Is there an additional cost for drives that contain this feature? If so, do you think it is worth the extra cost? Do you think the feature is beneficial? Why or why not? At the conclusion of your research, prepare a one- to two-page summary of your findings and opinions and submit it to your instructor.

2. Adding Memory Adding additional RAM to a computer is one of the most common computer upgrades. Before purchasing additional memory, however, it is important to make sure that the purchased memory is compatible with the computer.

For this project, select a computer (such as your own computer, a school computer, or a computer at a local store) and then determine (by looking at the computer or asking an appropriate individual—such as a lab aide in the school computer lab or a salesperson at the local store) the following: manufacturer and model number, CPU, current amount of memory, total memory slots, and the number of available memory slots. (If you look inside the computer, be sure to unplug the power cord first and do not touch any components inside the system unit.) Once you have the necessary information, call a local store or use your information and a memory supplier’s Web site to determine the appropriate type of memory needed for your selected computer. What choices do you have in terms of capacity and configuration? Can you add just one memory module, or do you have to add memory in pairs? Can you keep the old memory modules, or do they have to be removed? At the conclusion of your research, prepare a one-page summary of your findings and recommendations and submit it to your instructor.

3. Keyboarding Speed Test Although voice and other alternative means of input are emerging, most data input today is still performed via the keyboard. Proper keyboarding technique can help increase speed and accuracy. Online keyboarding tests can help to evaluate your keyboarding ability.

For this project, find a site (such as Typingtest.com) that offers a free online typing test and test your keyboarding speed and accuracy. At the conclusion of the test, rate your keyboarding ability and determine whether a keyboarding course or tutor program, or just keyboarding practice, will help you improve if your score is not at least 20 correct words per minute (cwpm). Take the test one more time to see if your speed improves now that you are familiar with how the test works. If your speed is fast, but accuracy is low, take the test once more, concentrating on accuracy. If you still test less than 20 cwpm, locate a free typing tutor program or Web site and evaluate it to see if it would help you to increase your speed and accuracy. At the conclusion of this task, prepare a short summary of your experience, including the typing test site used and your best score.
4. **Lost and Found** Portable computers, mobile phones, USB flash drives, and other portable devices are lost all the time today. They can be dropped out of a pocket or bag, inadvertently left on a table, and so forth. If the owner has identifying information (name, phone number, or e-mail address, for instance) printed on the device, the individual who finds the device can attempt to return it to the owner. But what if there is no identifying information clearly visible on the device? Should the finder look at the contents of the device to try to determine the owner? If the device is lost in a location where there is a responsible party (such as an airplane or a restaurant), the finder can turn over the device to that authority (such as a flight attendant or manager). But, is it ethical for the responsible party to look at the contents in order to identify the owner? If you lost a device, would you want someone to look at the contents to try to determine your identity? Why or why not? Is looking at the contents on a found device ever ethical? Should it be illegal?

For this project, form an opinion about the ethical ramifications of lost devices and be prepared to discuss your position (in class, via an online class discussion group, in a class chat room, or via a class blog, depending on your instructor’s directions). You may also be asked to write a short paper expressing your opinion.

5. **Open Source Software: Software Development Benefit or Hindrance?** A number of open source software products (such as the Linux operating system) are available today. One reason individuals and organizations are switching to Linux and other open source software is cost. Proponents of open source software also believe that if programmers who are not concerned with financial gain work on an open source program, they will produce a more useful and error-free product much faster than the traditional commercial software development process. However, what is the impact of open source software on software development in general? Will it force existing commercial software companies to streamline their development process in order to cut costs to better compete with open source products? Or will commercial software companies simply go out of business? Would commercial software manufacturers be justified in raising their prices to make up for revenue lost to open source competitors? Would you prefer to use open source software or commercial software? Why?

For this project, consider the pros and cons of open source software and form an opinion about its impact on the software industry and software in general. Be prepared to discuss both sides of this issue and your opinion (in class, via an online class discussion group, in a class chat room, or via a class blog). You may also be asked to write a short paper or prepare a short presentation expressing your opinion, depending on your instructor’s directions.
Instructions: Match each term on the left with the definition on the right that best describes it.

1. _______ A learning environment in which the student is physically located away from the instructor and other students; commonly, instruction and communications take place via the Web.
2. _______ A type of Internet connection in which the computer or other device is connected to the Internet continually.
3. _______ A small file stored on a user’s hard drive by a Web server; commonly used to identify personal preferences and settings for that user.
4. _______ A software program used by a search site to retrieve matching Web pages from a search database.
5. _______ A type of Internet connection in which the computer or other device must dial up and connect to a service provider’s computer via telephone lines before being connected to the Internet.
6. _______ A recorded audio or video file that can be played or downloaded via the Web.
7. _______ A word typed in a search box on a search site to locate information on the Internet.
8. _______ The collection of Web pages available through the Internet.
9. _______ The largest and most well-known computer network, linking millions of computers all over the world.
10. _______ The process of downloading movies and television shows, on demand, via the Web.

Key Term Matching

a. cookie  
b. dial-up connection  
c. direct connection  
d. distance learning  
e. Internet  
f. keyword  
g. podcast  
h. search engine  
i. video-on-demand (VOD)  
j. World Wide Web (WWW)

Self-Quiz

Instructions: Circle T if the statement is true, F if the statement is false, or write the best answer in the space provided. Answers for the self-quiz are located in the References and Resources Guide at the end of the book.

1. T  F When the Internet was first developed, it was called Mosaic.
2. T  F On the Internet, an access provider and a content provider are essentially the same thing.
3. T  F With a direct connection, you need only open your browser to start your Internet session.
4. T  F A Wi-Fi hotspot is used to provide Internet access to individuals via a wireless connection.
5. T  F A Webinar is a Web site designed to allow individuals to easily create and publish blogs.
6. _______ A type of always-on broadband Internet service that transmits data over standard telephone lines but does not tie up your phone line.
7. With a(n) _______ search, keywords are typed into the search box; with a(n) _______ search, users select categories to find matching Web pages.
8. _______ is a Web site (such as Facebook) designed to enable a community of individuals to communicate and exchange information.
9. With a(n) _______, people bid on products over the Internet, and the highest bidder purchases the item.
10. Match each Internet application to its possible situation, and write the corresponding number in the blank to the left of each situation.
   a. _______To communicate with a friend in a different state.
   b. _______To pay only as much as you specify for an item purchased through the Internet.
   c. _______To pay a bill without writing a check.
   d. _______To find Web pages containing information about growing your own Bonsai trees.

1. Match each type of Internet access to its description, and write the corresponding number in the blank to the left of each description.
   a. _______A common type of home broadband connection; does not use standard phone lines.
   b. _______Provides access to the Internet via a very fast fiber-optic network.
   c. _______Accesses the Internet via standard phone lines and ties up your phone; the maximum speed is 56 Kbps.

2. What would each of the following searches look for?
   a. hot AND dogs
   b. snorkel*
   c. text:“Internet privacy” domain:.gov

3. List three different sets of keywords that could be used to search for information on how to maintain a trumpet.

4. Explain the difference between a blog, a wiki, and a podcast.

5. List one advantage and one disadvantage of the use of Web site cookies.

EXERCISES

1. Conventional dial-up
2. BoF
3. Cable

DISCUSSION QUESTIONS

1. Twittering became virtually an overnight sensation, but some question its usefulness. Do you want to know the routine activities your friends (or other individuals you choose to follow) are doing during the day? Is it useful information to tweet that you are stuck in traffic or having a bad day? Do you follow anyone on Twitter or tweet regularly? Why or why not? Since Twitter updates have to be very short, some may think that twittering on the job does not take up enough time to be a concern, but what about the distraction factor? Should employers allow employees to use Twitter, Facebook, and other popular online activities during work hours? Why or why not?

2. Some courtrooms today are becoming high-tech, such as using videoconferencing systems to allow defendants and witnesses to participate in proceedings from remote locations. Allowing defendants to participate remotely from the jail facility saves travel time and expense, as well as eliminates any risk of flight. Remote testimony from witnesses can save both time and money. But, could having defendants and witnesses participate remotely affect the jury’s perspective? If the videoconference takes place via the Internet, can it be assured that proceedings are confidential? Do you think the benefits of these systems outweigh any potential disadvantages?
1. **Social Network Addiction**  As discussed in the chapter, social networks (such as Facebook and MySpace) are very popular with individuals. However, it has become apparent recently that some individuals are moving from casual social networking use to compulsive or addictive behavior.

   For this project, investigate either Facebook addiction or Internet addiction. How common is it? What are some of the warning signs? Is there an actual medical disorder associated with it? If so, what is it and how is it treated? Find one example in a news or journal article of a person who was “addicted” to using a social networking site or other online activity—why was their behavior considered addictive? Were they able to modify their behavior? Have you ever been concerned about becoming addicted to any Internet activities? At the conclusion of your research, prepare a one-page summary of your findings and opinions and submit it to your instructor.

2. **Online Travel Planning**  Planning and booking travel arrangements online is a very popular Internet activity today and there are a number of sites that can be used.

   For this project, review two popular travel sites, such as Expedia.com and Travelocity.com, to see what services they offer and how easy it is to locate the information needed to plan and book a flight via those sites. Select a destination and use one of the sites to obtain a quote for a particular flight on a particular day. Next, go to the Web site for the airline of the flight and use the site to obtain a quote for the same flight. Is there a difference in price or flight availability? Could you make a reservation online through both sites? Would you feel comfortable booking an entire vacation yourself online, or are there services that a travel agent could provide that you feel would be beneficial? Do you think these sites are most appropriate for making business travel plans or vacation plans, or are they suited to both? At the conclusion of your research, prepare a one-page summary of your findings and submit it to your instructor.

3. **Web Searching**  Search sites can be used to find Web pages containing specific information, and there are strategies that can be used to make Web searching an efficient and useful experience.

   For this project, go to the Google search site and perform the following searches, then submit your results and printouts to your instructor. (Note: Some of the answers will vary from student to student.)

   a. Search for *rules*. How many pages were found? What is the name of the first page in the list of hits? Next, search for *backgammon rules*. How many pages were found? Use the hits to find a picture of how a backgammon board is initially set up, then, print that page.

   b. Search to find a recipe for Buffalo Chicken Wings; a map of where your house, apartment, or dorm is located; and the ZIP code for 200 N. Elm Street, Hinsdale, IL and print the pages containing this information.

   c. Go to the Advanced Search option. Use the form fields to perform a search for Web pages that contain all of the words *hiking trails Sierra*, do not contain the word *horse*, and have the domain .gov. After the hits are displayed, record the actual search phrase that is listed in the search box along with the name and URL of the first page displayed in the list of hits.
4. **Paid Bloggers** Blogs are traditionally online personal journals where the blogger expresses his or her opinion on desired topics. Unlike professional journalists, bloggers typically post because they want to, not because they have been hired to do so. However, as discussed in the chapter, bloggers are increasingly being paid or “sponsored” to blog. Is this ethical? If a blogger is paid to post his or her honest opinion about a product or service, does that lessen the credibility of that post? Does it change your opinion if the blogger reveals that it is a sponsored blog? If you based a purchase on a review posted in a blog that you later found out was sponsored, would you feel misled? How, if at all, do sponsored posts affect the blogosphere as a whole?

For this project, form an opinion about the ethical ramifications of paid blogging and be prepared to discuss your position (in class, via an online class discussion group, in a class chat room, or via a class blog, depending on your instructor’s directions). You may also be asked to write a short paper expressing your opinion.

5. **Real Self vs. Virtual Self** The term virtual is commonly used to describe a situation or activity that is merely conceptual, instead of one that has a physical reality, and it is often applied to computer activities such as virtual tours, virtual vacations, and 3D virtual worlds. Virtual and other online activities foster anonymity. For instance, an individual’s identity and physical characteristics (such as age, gender, race, and appearance) are not visible online. Because of this, individuals can project any image of themselves that they wish to present, either by what they say or by the avatars they choose to use to portray themselves online. In other words, individuals are free to create a virtual self that may not be representative of who they really are. Sometimes this is beneficial because it allows individuals to be judged online solely by their ideas, not by their physical appearance. At other times, such as when child molesters masquerade as young people to lure youngsters to meet with them face-to-face, it can be dangerous and criminal. Is it ethical to portray a false or misleading appearance online? What role should the government take in online communications? Should it be allowed to monitor online communications and have access to a participant’s real identity? If so, under what circumstances? In 1996, the first virtual wedding between two individuals was held in an Internet virtual world with the bride, groom, and guests represented by avatars. What is your opinion about “virtualizing” these types of important events?

For this project, consider how an individual’s virtual self can differ from his or her real self, and form an opinion regarding the use of a virtual self. Be prepared to discuss both sides of this issue and your opinion (in class, via an online class discussion group, in a class chat room, or via a class blog). You may also be asked to write a short paper or prepare a short presentation expressing your opinion, depending on your instructor’s directions.

### Instructions:

Go to the Chapter 3 page at [www.cengage.com/international](http://www.cengage.com/international) to work the following Web Activities.

6. **Interactive Activities** Work the interactive Crossword Puzzle, watch the Video Podcasts and Online Videos, and explore the Further Exploration links associated with this chapter.
   
   If you have a SAM user profile, you may have access to hands-on instruction, practice, and assessment of the skills covered in this chapter. Check with your instructor for instructions and the correct URL/Web site to access those assignments.

7. **Student Edition Labs** Work the following interactive Student Edition Labs.
   
   - Networking Basics
   - Getting the Most Out of the Internet
   - Connecting to the Internet
   - E-Commerce

8. **Test Yourself** Review the Online Study Guide for this chapter, then test your knowledge of the terms and concepts covered in this chapter by completing the Key Term Matching exercise, the Self-Quiz, the Exercises, and the Practice Test.
CHAPTER 4 REVIEW ACTIVITIES

KEY TERM MATCHING

Instructions: Match each key term on the left with the definition on the right that best describes it.

1. ______ A collection of hardware and/or software intended to protect a computer or computer network from unauthorized access.
2. ______ A fraud or scam carried out through the Internet.
3. ______ A malicious program that masquerades as something else.
4. ______ A method of scrambling the contents of an e-mail message or a file to make it unreadable if it is intercepted by an unauthorized user.
5. ______ A secret combination of characters used to gain access to a computer, computer network, or other resource.
6. ______ A software program installed without the user’s knowledge and designed to alter the way a computer operates or to cause harm to the computer system.
7. ______ An act of sabotage that attempts to flood a network server or a Web server with so much activity that it is unable to function.
8. ______ The use of spoofed e-mail messages to gain credit card numbers and other personal data to be used for fraudulent purposes.
9. ______ Using a computer to break into another computer system.
10. ______ Using someone else’s identity to purchase goods or services, obtain new credit cards or bank loans, or otherwise illegally masquerade as that individual.

SELF-QUIZ

Instructions: Circle T if the statement is true, F if the statement is false, or write the best answer in the space provided. Answers for the self-quiz are located in the References and Resources Guide at the end of the book.

1. T F A computer virus can only be transferred to another computer via a storage medium.
2. T F An access control system that uses passwords is a possessed knowledge access system.
3. T F Using a password that is two characters long is an example of two-factor authentication.
4. T F Secure Web pages use encryption to securely transfer data sent via those pages.
5. T F Cyberstalking is the use of spoofed e-mail messages to gain credit card numbers and other personal data to be used for fraudulent purposes.
6. Driving around looking for a Wi-Fi network to access is referred to as ________.
7. ________ access control systems use some type of unique physical characteristic of a person to authenticate that individual.
8. A(n) ________ can be used at a Wi-Fi hotspot to create a secure path over the Internet.
9. A(n) ________ can be added to a file or an e-mail message to verify the identity of the sender and guarantee the file or message has not been changed.
10. Match each computer crime to its description, and write the corresponding number in the blank to the left of the description.
   a. ______ A person working for the Motor Vehicle Division deletes a friend’s speeding ticket from a database.
   b. ______ An individual does not like someone’s comment on a message board and begins to send that individual harassing e-mail messages.
   c. ______ An individual sells the same item to 10 individuals via an online auction site.
   d. ______ A person accesses a computer belonging to the IRS without authorization.

1. Write the appropriate letter in the blank to the left of each term to indicate whether it is related to unauthorized access (U) or computer sabotage (C).
   a. ______ Time bomb    c. ______ Malware    e. ______ War driving
   b. ______ DoS attack    d. ______ Wi-Fi piggybacking

2. Is the password john1 a good password? Why or why not? If not, suggest a better password.

3. Supply the missing words to complete the following statements regarding public/private key pairs.
   a. With an encrypted e-mail message, the recipient’s ______ key is used to encrypt the message, and the recipient’s ______ key is used to decrypt the message.
   b. With a digital signature, the sender’s ______ key is used to sign the document, and the sender’s ______ key is used to validate the signature.

4. To secure files on your computer so they are unreadable to a hacker who might gain access to your computer, what type of encryption (public key or private key) would be the most appropriate? Explain.

5. List two precautions that individuals can take to secure a wireless router against unauthorized access.

1. The term hacktivism is sometimes used to refer to the act of hacking into a computer system for a politically or socially motivated purpose. While some view hacktivists no differently than they view other hackers, hacktivists contend that they break into systems in order to bring attention to political or social causes. Is hacktivism a valid method of bringing attention to specific causes? Why or why not? Should hacktivists be treated differently than other types of hackers when caught?

2. According to security experts, several worms released in past years contain more than just the virus code—they contain code to remove competing malware from the computers they infect and messages taunting other virus writers. The goal seems to be not only to gain control of an increasing number of infected machines—a type of “bot war” to build the biggest botnet—but also to one-up rivals. If this trend continues, do you think it will affect how hackers and other computer criminals will be viewed? Will they become cult heroes or be viewed as dangerous criminals? Will continuing to increase prosecution of these individuals help or hurt the situation?
CHAPTER 4  PROJECTIONS

HOT TOPICS

1. Wi-Fi Hotspot Safety As discussed in the chapter, it is possible to inadvertently connect to an evil twin instead of the legitimate Wi-Fi hotspot you intended to connect to, and, even if you are connected to a legitimate hotspot, any data you send unsecured via the hotspot can be intercepted by a criminal. In either case, if the thief intercepts your credit card number, Web site passwords, or other sensitive data, it can be used for identity theft and other criminal activities.

   For this project, research these and any other possible risks you can think of related to using a Wi-Fi hotspot. For each risk, identify a possible precaution that can be taken to guard against that risk. If you have ever used a Wi-Fi hotspot, were you at risk? Knowing what you do now, would you take any new precautions the next time you use one? Is it possible to surf safely using a Wi-Fi hotspot? At the conclusion of your research, prepare a one-page summary of your findings and opinions and submit it to your instructor.

SHORT ANSWER/RESEARCH

2. New Viruses Unfortunately, new computer viruses and other types of malware are released all the time.

   For this project, identify a current virus or worm (most security companies, such as Symantec and McAfee, list the most recent security threats on their Web sites) and answer the following questions: When was it introduced? What does it do? How is it spread? How many computers have been affected so far? Is there an estimated cost associated with it? Is it still in existence? At the conclusion of your research, prepare a one-page summary of your findings and submit it to your instructor.

HANDS ON

3. Virus Check There are several Web sites that include a free virus check, as well as other types of diagnostic software.

   For this project, find a free virus check available on the Web site of a company that makes antivirus software (such as the Symantec Security Scan at security.symantec.com) and run the free virus check. NOTE: The programs may require temporarily downloading a small program or an ActiveX component. If you are unable to perform this task on a school computer, ask your instructor for alternate instructions. If the check takes more than 10 minutes and there is an option to limit the check to a particular drive and folder, redo the check but scan only part of the hard drive (such as the Documents folder) to save time. After the virus scan is completed, print the page displaying the result. Did the program find any viruses or other security threats? At the conclusion of this task, submit your printout with any additional comments about your experience to your instructor.
4. Teaching Computer Viruses Some college computer classes include instruction on writing computer viruses. At one university, precautions for containing code created during this course include only allowing fourth year students to take the course, not having a network connection in the classroom, and prohibiting the removal of storage media from the classroom. Do you think these precautions are sufficient? Should writing virus code be allowed as part of a computer degree curriculum? Some believe that students need to know how viruses work in order to be able to develop antivirus software; however, the antivirus industry disagrees, and most antivirus professionals were never virus writers. Is it ethical for colleges to teach computer virus writing? Is it ethical for students to take such a course? Will teaching illegal and unethical acts (such as writing virus code) in college classes help to legitimize the behavior in society? Would you feel comfortable taking such a course? Why or why not?

For this project, form an opinion about the ethical implications of including the instruction of writing virus code in college classes and be prepared to discuss your position (in class, via an online class discussion group, in a class chat room, or via a class blog, depending on your instructor’s directions). You may also be asked to write a short paper expressing your opinion.

5. Security vs. Personal Freedom We all depend on some types of security, such as depending on the military and police to keep us safe from terrorists and other criminals and expecting our employers to provide a safe workplace. What we view as potential danger tends to limit our personal freedom. For example, many citizens of large cities avoid walking the streets alone at night, even though they have the right to do so, and many Americans avoid traveling to the Middle East, South America, and other locations thought to be dangerous for Americans at the present time. Security measures established to protect us sometimes also limit our personal freedom—for example, having to submit to personal and baggage searches before boarding an airplane or having to show identification to gain admittance to your workplace. Most citizens are willing to give up some level of personal freedom in order to protect their personal safety, but the difficulty is determining the balance—how much loss of freedom is worth a certain level of additional security? Do you think it is necessary to sacrifice some degree of personal freedom in order to obtain the necessary level of national security? Why or why not? Do you think public support for a national ID card containing biometric data, public video surveillance systems, and other security measures will decrease or increase in the future? Why? Are you willing to give up some freedom for increased personal safety? For convenience?

For this project, consider the issue of security versus personal freedom, and form an opinion regarding the optimal balance. Be prepared to discuss both sides of this issue and your opinion (in class, via an online class discussion group, in a class chat room, or via a class blog). You may also be asked to write a short paper or prepare a short presentation expressing your opinion, depending on your instructor’s directions.

Instructions: Go to the Chapter 4 page at www.cengage.com/international to work the following Web Activities.

6. Interactive Activities Work the interactive Crossword Puzzle, watch the Video Podcasts and Online Videos, and explore the Further Exploration links associated with this chapter.

If you have a SAM user profile, you may have access to hands-on instruction, practice, and assessment of the skills covered in this chapter. Check with your instructor for instructions and the correct URL/Web site to access those assignments.

7. Student Edition Labs Work the following interactive Student Edition Lab.

➤ Wireless Networking ➤ Keeping Your Computer Virus Free
➤ Advanced Databases ➤ Careers and Technology

8. Test Yourself Review the Online Study Guide for this chapter, then test your knowledge of the terms and concepts covered in this chapter by completing the Key Term Matching exercise, the Self-Quiz, the Exercises, and the Practice Test.
KEY TERM MATCHING

Instructions: Match each key term on the left with the definition on the right that best describes it.

1. A device containing a built-in battery that provides continuous power to a computer and other connected components when the electricity goes out.
2. A device that protects a computer system from damage due to electrical fluctuations.
3. A written plan that describes the steps a company will take following the occurrence of a disaster.
4. Technology that enables one computing device (such as a computer or mobile phone) to locate and identify the current status of another device on the same network.
5. The complete malfunction of a computer system.
6. The rights of individuals and companies to control how information about them is collected and used.
7. A technology that encrypts everything stored on a storage medium automatically, without any user interaction.
8. The unauthorized copying of a computer program.
9. The use of computers or other types of digital equipment to make illegal copies of currency, checks, collectibles, and other items.
10. Unsolicited, bulk e-mail sent over the Internet.

SELF-QUIZ

Instructions: Circle T if the statement is true, F if the statement is false, or write the best answer in the space provided. Answers for the self-quiz are located in the References and Resources Guide at the end of the book.

1. T F As long as a business owns one legal copy of a software program, it can install that program on as many computers as desired without fear of retribution.
2. T F Electronic profiling is the act of using electronic means to collect a variety of in-depth information about an individual, such as name, address, income, and buying habits.
3. T F Encryption can be used for privacy purposes, in addition to security purposes.
4. T F One way of safeguarding your e-mail address is to use a single e-mail address for all online activity, including personal e-mail and online shopping.
5. T F Very few major U.S. companies monitor the online activities of their employees.
6. A(n) _______ plan can help a business get operational again following a fire, an act of sabotage, or a similar disaster.
7. Color copying money is an example of _______.
8. An e-mail _______ can be used to route suspected spam automatically into an e-mail folder.
9. If you ________, you are requesting that you be removed from marketing activities or that your information not be shared with other companies; if you ________, you are requesting to participate.
10. Match each precaution with the security risk it is designed to protect against, and write the corresponding number in the blank to the left of each security risk.

   a. _______ Digital counterfeiting
   b. _______ Hardware theft
   c. _______ Privacy breach
   d. _______ System damage

1. Match each privacy risk with its related term, and write the corresponding number in the blank to the left of each term.

   a. _______ Throw-away e-mail address
   b. _______ Computer monitoring software
   c. _______ Riding public transportation

2. Supply the missing words to complete the following statements.

   a. _______ refers to all content on a storage medium being encrypted automatically.
   b. _______ refers to the ability to locate the current status of an individual via a network.

3. List two precautions that can be taken while traveling with a portable computer to guard against its theft.

4. Explain the purpose of an uninterruptible power supply (UPS) and how it differs in function from a surge suppressor.

5. Think of one computer-related security or privacy risk you have encountered recently. Describe the risk and list at least one precaution that could be taken to minimize that risk.

1. Much of the Facebook “Beacon” controversy stemmed from the fact that Facebook members were automatically included instead of having to opt in. Should all online marketing activities be on an opt-in basis? How would you feel if your online activities (such as your online purchases) were shared with others without your consent? Does it make a difference if the activities are linked to your identity or anonymous? Facebook was recently ordered to pay $9.5 million to fund a privacy foundation in response to a Beacon lawsuit—is this justified?

2. Spam is increasingly being filtered by ISPs and e-mail programs, and pop-up blockers can block many Web page advertisements. If this trend continues and these activities are no longer viable marketing activities, what will the long-term effect be? Will free Web content begin to disappear? Is paying Internet users to receive spam or view Web ads a viable option? Just as with television, some amount of advertising is typically necessary in order to support free content. What do you think is the optimal balance for the Web?
1. **Electronic Health Records**

The use of electronic health records (EHRs) is growing rapidly. Proponents view EHRs as a means to deliver better care more efficiently. However, some privacy advocates are concerned about the possible security breaches of servers containing digital private medical information.

For this project, research the current use of EHRs. What are the benefits? Are EHRs widely used? Are you concerned about your medical history being stored on a computer that, potentially, could be accessed by a hacker or other unauthorized individual? Do you think the risk of a privacy breach is higher with EHRs as compared with the records contained in conventional paper file folders? What about private electronic health systems like Google Health that are designed to help individuals organize their health records and are still stored online?

At the conclusion of your research, prepare a one-page summary of your findings and opinions and submit it to your instructor.

2. **E-Voting**

E-voting—casting ballots online or via an electronic e-voting machine—has been surrounded by controversy. Concerns include the accuracy and security of e-voting machines, the ability of online voting systems to prevent someone from voting as another individual and to protect the privacy of votes cast electronically, and the ability to perform an accurate recount.

For this project, research the current status of e-voting. Have universal standards been developed for all e-voting machines used in the United States or is that decision made on a state-by-state basis? What security measures are being used with e-voting and online voting systems to ensure they cannot be hacked and that only the registered voter is permitted to cast his or her vote? Form an opinion about the use of e-voting machines and online voting. Would you be comfortable casting your vote via an e-voting machine? How about online? At some point, do you think online voting will become the norm? If so, how would you suggest handling individuals who have no Internet access available to them on Election Day? At the conclusion of your research, submit your findings and opinions to your instructor in the form of a short paper, no more than two pages in length.

3. **Browser Privacy Settings**

There are a variety of settings in a Web browser that pertain to privacy, such as cookie, cache, and history settings.

For this project, find a computer (either your own or one in a school computer lab or at your local public library) on which you are permitted to change the Internet options (ask permission first if you are not sure if these actions are allowed) and perform the following tasks:

a. Open Internet Explorer and use the *Internet Options* option on the Tools menu to check the current settings on the General and Privacy tabs. Using the General tab, delete your browsing history (temporary files, history, cookies, saved passwords, and Web form information).

b. Visit at least five different Web sites to build a history and cookie list. You may want to go to an e-commerce site and add items to your shopping cart (but don’t check out) or personalize a portal page, such as MSNBC.com or iGoogle.com.

c. Display your history list. Are the Web sites you visited listed? Use the Browsing history Settings button on the Internet Options dialog box to view the temporary files, including your cookie files. Were new cookies added during your session? If so, are they all from the Web sites you visited, or are any of them third-party cookies?

d. Delete all temporary Internet files, sign out of any personalized pages, and close the browser window. Prepare a short summary of your work to submit to your instructor.
4. **Security Camera Networks** As discussed in the chapter, live surveillance cameras are being used at an increasing number of public locations. Some view this as a valid crime prevention tool; others think it is an invasion of privacy. Is it ethical for businesses to use video cameras to record customers’ activities? If so, for what purposes? Does the government have the responsibility to use every means possible to protect the country and its citizens? Or do citizens have the right not to be watched in public? One objection stated about these systems is “It’s not the same as a cop on the corner. This is a cop on every corner.” What if it were a live police officer at each public video camera location instead of a camera? Would that be more acceptable from a privacy standpoint? If people do not plan to commit criminal acts in public, should they be concerned that law enforcement personnel may see them? Does the risk of being recorded deter some illegal or unethical acts?

For this project, form an opinion about the ethical ramifications of public video surveillance and be prepared to discuss your position (in class, via an online class discussion group, in a class chat room, or via a class blog, depending on your instructor’s directions). You may also be asked to write a short paper expressing your opinion.

5. **Personal Privacy vs. the Government’s Right to Know** It has been several years since Sun Microsystems’ co-founder and CEO Scott McNealy said: “You have zero privacy anyway. Get over it.” Since then, as more and more of our personal data has become centralized and shared at an astounding rate, the privacy debate has escalated. What amount of personal privacy should individuals demand today? By using the Internet and other tools that have added convenience to our lives, have we given up some right to privacy? Undoubtedly, the government needs some information about us to do its job. But, does the government need to know where we shop, what Web sites we visit, and what we say in our personal e-mail messages? Some individuals believe that the government has the right to know anything about us if it helps to prevent crime and terrorism in order to provide a safer society. Others believe that trading privacy for an additional sense of security is unacceptable. Do you think the government should have access to all of our information? What amount of personal privacy should individuals demand? To protect the country? Is there any personal information that you believe should be able to remain private no matter what? What about your phone records, e-mail exchanges, and Web-surfing activities? If you are not being investigated for a crime, should the government be able to access this information if it believes it is necessary?

For this project, consider the issue of personal privacy versus the government’s right to know, and form an opinion regarding the optimal balance. Be prepared to discuss both sides of this issue and your opinion (in class, via an online class discussion group, in a class chat room, or via a class blog). You may also be asked to write a short paper or prepare a short presentation expressing your opinion, depending on your instructor’s directions.

**WEB ACTIVITIES**

6. **Interactive Activities** Work the interactive Crossword Puzzle, watch the Video Podcasts and Online Videos, and explore the Further Exploration links associated with this chapter.

If you have a SAM user profile, you may have access to hands-on instruction, practice, and assessment of the skills covered in this chapter. Check with your instructor for instructions and the correct URL/Web site to access those assignments.

7. **Student Edition Labs** Work the following interactive Student Edition Lab.

   > Backing Up Your Computer
   > Protecting Your Privacy Online
   > Maintaining a Hard Drive

8. **Test Yourself** Review the Online Study Guide for this chapter, then test your knowledge of the terms and concepts covered in this chapter by completing the Key Term Matching exercise, the Self-Quiz, the Exercises, and the Practice Test.
CHAPTER 6 REVIEW ACTIVITIES

KEY TERM MATCHING

Instructions: Match each term on the left with the definition on the right that best describes it.

1. ______ A form of protection for an invention that can be granted by the government; gives exclusive rights of an invention to its inventor for 20 years.
2. ______ An inaccurate statement or story spread through the use of computers.
3. ______ A subtle alteration of digital content that is not noticeable when the work is viewed or played, but that identifies the copyright holder.
4. ______ A word, phrase, symbol, or design that identifies goods or services.
5. ______ Presenting someone else’s work as your own.
6. ______ Standards of moral conduct as they relate to computer use.
7. ______ Standards of moral conduct that guide a business’s policies, decisions, and actions.
8. ______ The alteration of digital content, usually text or photographs.
9. ______ The legal right to sell, publish, or distribute an original artistic or literary work; it is held by the creator of a work as soon as it exists in physical form.
10. ______ The rights to which creators of original creative works (such as artistic or literary works, inventions, corporate logos, and more) are entitled.

a. business ethics
b. computer ethics
c. computer hoax
d. copyright
e. digital manipulation
f. digital watermark
g. intellectual property rights
h. patent
i. plagiarism
j. trademark

SELF-QUIZ

Instructions: Circle T if the statement is true, F if the statement is false, or write the best answer in the space provided. Answers for the self-quiz are located in the References and Resources Guide at the end of the book.

1. T F All unethical acts are illegal.
2. T F Changing the background behind a television newscaster to make it appear that he or she is reporting on location instead of from inside the television studio would be an example of digital manipulation.
3. T F Patents are used to protect artistic works, such as music or books.
4. T F Copying a song from a CD you own to your computer to create a custom music CD for personal use is normally considered fair use.
5. T F Résumé padding or lying on a job application would be viewed as unethical by most employers.
6. A software program would be protected by ______ law, while a corporate logo would be protected by ______ law.
7. Turning in a copy of a poem you found on a Web site as your original composition for a poetry class assignment is an example of ______.
8. ______ software is used to protect and manage the rights of creators of digital content, such as by allowing a digital music file to be copied a limited number of times.
9. The overturning by the U.S. Supreme Court of the _______ Act, which made it illegal to
distribute patently indecent or offensive material online, is considered a landmark decision for
free speech advocates.

10. Match each term to its description or example, and write the corresponding number in the
blank to the left of each description or example.
   a. _______ What the symbol © stands for.
   b. _______ Can vary from another’s depending on his or her values, culture, and so forth.
   c. _______ A warning about a nonexistent virus spread via e-mail.
   d. _______ A subtle alteration of digital content that identifies the copyright holder.

1. For each of the following situations, write the appropriate letter—E (ethical) or U (unethical)—in
the blank to the right of the situation to indicate how most individuals would view the act.

   Situation
   a. A teenager rips a new CD she just bought and e-mails the MP3 files to all her friends.
   b. A photographer combines two of his photographs to create a new composite artistic piece.
   c. A physician incorporates another doctor’s research into her journal article submission,
      including the researcher’s name and article in her submission.

2. Match each term with its related example, and write the corresponding number in the blank to
the left of each example.
   a. _______ Copying and pasting Web page text without recognizing the source.
   b. _______ Online age verification systems.
   c. _______ Service marks.

3. Assume that you have created a Web site to display your favorite original photographs. Is the
site and/or your photographs protected by copyright law? Why or why not?

4. Explain the difference between a copyright and a trademark.

5. Under what circumstances might a business need to consider cultural differences when creating
a Web site? List at least two examples.

1. There are research services available online that can be used by students preparing term papers.
   Is the use of these services ethical? Is the use of programs to detect plagiarism by instructors
   ethical? How can the problem of plagiarism and other forms of cheating at schools today be
   resolved? Whose responsibility is it to ensure students do not cheat themselves out of a proper
   education?

2. While the Web contains a vast amount of extremely useful information, some content can be
   harmful. Think about suicide Web sites that explain in detail how to kill oneself, Web sites that
   broadcast the beheadings by terrorists, and Web sites that explain how to build bombs. If a Web
   site instructs visitors how to perform an illegal act, should the site’s creators be criminally liable
   if a visitor carries out those instructions? Who, if anyone, is responsible for preventing poten-
tially harmful information from being shared via the Web? Is there any Internet content that you
believe a government has the right or obligation to censor? If so, what? Where should the line
between freedom of speech and national or personal safety be drawn?
1. Ethics and Virtual Worlds As discussed in the chapter, there are a number of ethical issues surrounding virtual worlds, such as Second Life.

For this project, consider some of the issues discussed in the chapter, such as reporting income from virtual world activities to the IRS, using online age verification systems to enable visitors to access age-restricted areas, and the ability to portray oneself differently than you really are. Select one issue and research it to find out its current status and to form an opinion on that issue, including what you think is the ethical thing to do with respect to this issue, what you think the majority of individuals do with respect to this issue, the potential ramifications of this issue, and any changes you think are needed in the future. At the end of your research, prepare a one-page summary of your findings and opinions and submit it to your instructor.

2. Copyright Registration Think of an original creation (paper, poem, photograph, or song) to which you believe you are entitled copyright protection and assume that you would like to register a copyright for your creation.

For this project, research how you would obtain a copyright for your chosen creation. Visit the U.S. Copyright Office Web site (search for it using a search site) and determine the necessary procedure for registration, the required paperwork, and the necessary fee. Use the information located on the site to make sure your creation is entitled to copyright protection, then find the appropriate online registration form (if one is available online). If possible, open and print just one page of the form. From the site, also determine what notice you will receive once your copyright claim has been recorded and how long it will take to receive it. Prepare a short summary of your findings to submit to your instructor, stapled to the single page of the appropriate application if you were able to print it.

3. Ethical Web Images Many Web sites have free or low cost clip art, photos, or other images available for use on personal or business newsletters, reports, or other printed documents, as well as on Web pages. Use of other images located on Web page, however, may be restricted.

For this project, use a search site to find a Web site (such as 1ClipArt.com or The Free Graphics Store) that offers free images. Determine the types of images and file formats available, as well as if there are any restrictions for use. Next, use the Google Images feature to search for an image you might want to use on a personal Web site or MySpace page. Can you tell from the Web page on which the image is located if you are allowed to use that image? If so, is there a fee for its use? If no information is available on the Web page, is there contact information that you could use to request permission to use the image? Are similar images available for free or for a nominal fee online? If so, is the fee reasonable enough for use on a personal Web page? At the conclusion of your research, form an opinion about the availability of free or low cost images online and the ethical and legal use of Web page images and make a recommendation for individuals looking for images to use on personal Web pages. Prepare a short summary of your findings and recommendations and submit it to your instructor.
4. Net Neutrality and Your ISP  The term *net neutrality* refers to the equality of data as it is transferred over the Internet. For instance, the data from an individual and the data from Microsoft are treated the same. A recent controversy surrounding the cable giant Comcast brought up the possibility of ISPs interfering with the delivery of Internet data. According to complaints by customers, Comcast has been blocking the use of P2P sites like BitTorrent to download movies, music, and other large files. Comcast, like most ISPs, includes a statement in its terms of service that allows it to use tools to "efficiently manage its networks", in order to prevent those customers using a higher than normal level of bandwidth from interfering with the access of other customers. However, the Comcast issue was considered by many to be a blatant net neutrality issue—blocking access to multimedia from sources other than its own cable sources. Do you think the actions taken by Comcast were ethical? Does an ISP have a right to block selected Internet traffic? Why or why not? Was there a more ethical way Comcast could have handled the problem of some users consuming a higher than normal level of bandwidth? For this project, form an opinion about the ethical ramifications of ISPs blocking selected Internet traffic and be prepared to discuss your position (in class, via an online class discussion group, in a class chat room, or via a class blog, depending on your instructor’s directions). You may also be asked to write a short paper expressing your opinion.

5. Government Protection vs. Government Censorship  There has always been a delicate balance between what is viewed as government protection and what is viewed as government censorship. *Censorship*, typically defined as restricting access to materials deemed objectionable or offensive, is performed at some level by every government—even in the United States. For example, public schools are not permitted to teach any particular religious viewpoint, and network television must edit out certain levels of potentially offensive language and nudity in movies before they can be aired. However, what about when censorship is used to block access to materials that will offend or are inappropriate for some, but not all, citizens, such as the use of Internet filtering by public libraries and schools to block adult-oriented Internet content? Should schools have the right to block access to Web content they view as inappropriate for students using school computers? Or do students have the right to use those computers to access any content they desire, on the basis that their fees, tuition, or parents’ taxes paid for that access? What about the rights of students who do not want to see content they find offensive displayed on computer screens as they pass by computers other students are using? For this project, consider the issue of government protection versus government censorship with respect to Internet content, and form an opinion regarding the optimal balance. Be prepared to discuss both sides of this issue and your opinion (in class, via an online class discussion group, in a class chat room, or via a class blog). You may also be asked to write a short paper or prepare a short presentation expressing your opinion, depending on your instructor’s directions.

**Instructions:** Go to the Chapter 6 page at [www.cengage.com/international](http://www.cengage.com/international) to work the following Web Activities.

6. Interactive Activities  Work the interactive Crossword Puzzle, watch the Video Podcasts and Online Videos, and explore the Further Exploration links associated with this chapter. If you have a SAM user profile, you may have access to hands-on instruction, practice, and assessment of the skills covered in this chapter. Check with your instructor for instructions and the correct URL/Web site to access those assignments.

7. Student Edition Labs  Work the following interactive Student Edition Labs.
   - Working with Graphics
   - Working with Video
   - Computer Ethics
   - Working with Audio
   - Installing and Uninstalling Software

8. Test Yourself  Review the Online Study Guide for this chapter, then test your knowledge of the terms and concepts covered in this chapter by completing the Key Term Matching exercise, the Self-Quiz, the Exercises, and the Practice Test.
CHAPTER 7 REVIEW ACTIVITIES

KEY TERM MATCHING

Instructions: Match each key term on the left with the definition on the right that best describes it.

1. _______ A certification, usually by a government agency, that identifies a device as meeting minimal environmental performance specifications.
2. _______ A condition in which the tendons on the thumb side of the wrist are swollen and irritated.
3. _______ A device designed to easily connect a portable computer to conventional hardware, such as a keyboard, mouse, monitor, and printer.
4. _______ A device that elevates the display of a notebook or tablet computer to a better viewing height; can contain USB ports to connect additional hardware.
5. _______ A painful and crippling condition affecting the hands and wrist that can be caused by computer use.
6. _______ Hardware and software specifically designed for use by individuals with physical disabilities.
7. _______ Hardware, typically an input or output device, that is designed to be more ergonomically correct than its nonergonomic counterpart.
8. _______ The gap between those who have access to technology and those who do not.
9. _______ The use of computers in an environmentally friendly manner.
10. _______ The problem of overusing, or being unable to stop using, the Internet.

SELF-QUIZ

Instructions: Circle T if the statement is true, F if the statement is false, or write the best answer in the space provided. Answers for the self-quiz are located in the References and Resources Guide at the end of the book.

1. T F A repetitive stress injury is related to the emotional health issue of stress.
2. T F The ENERGY STAR program is an energy conservation program developed by the United States government.
3. T F Carpal tunnel syndrome can be caused by using a computer keyboard.
4. T F As computer use has become more common, the potential for stress related to computer use has decreased.
5. T F Assistive technology is hardware and software designed to help all beginning computer users learn how to use a computer.
6. The science of fitting a work environment to the people who work there is called _______.
7. A state of fatigue or frustration usually brought on by overwork is referred to as _______.
8. The _______ can be used to describe discrepancies in access to technology by individuals within a country, as well as to compare access from country to country.
9. Craving more and more time at the computer can be an indicator of _______.
10. _______ power refers to electricity generated by the sun.
1. For each of the following situations, write the appropriate letter—Y (yes) or N (no)—in the blank to the right of the situation to indicate if the act is an example of green computing.

   **Situation**
   a. You adjust the power settings on your computer to never go into sleep mode.
   b. Your boss requires you to print all of his e-mail messages so he can read them on paper.
   c. You drop your old mobile phone off in a recycling box instead of throwing it in the trash.

2. Match each term with its related example, and write the corresponding number in the blank to the left of each example.

   a. ______ Assistive hardware.
   b. ______ Server consolidation.
   c. ______ Docking stations.
   d. ______ E-mail filters and flags.

3. List at least two assistive input or output devices designed for individuals with a visual impairment and explain the function of each.

4. List three possible negative physical effects that can result from computer use and describe one way to lessen each effect.

5. List three possible negative effects on the environment that can result from computer use and describe one way to lessen each effect.

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**Discussion Questions**

1. It is becoming increasingly common for biometric devices to be used to grant or deny access to facilities, as well as to identify consumers for financial transactions. In order to facilitate this, some data about each participant’s biometric features must be stored in a database. How do you feel about your biometric characteristics being stored in a database? Does it depend on whether the system belongs to your bank, employer, school, or the government? Since biometric features cannot be reset, are you at risk using a biometric ID system? Can the use of biometric systems and other systems that require less actual use of the computer by individuals help the issue of accessibility and lessen the digital divide? If, for instance, the norm for controlling a computer was the voice, would that level the technological playing field for all individuals? Why or why not?

2. While gaming and texting are both popular pastimes, it is possible to become injured by performing these activities. For instance, some Wii users have developed tennis elbow and other ailments from some Wii Sports games and heavy texters have developed problems with their thumbs. Think of the devices you use regularly. Have you ever become sore or injured from their use? If so, was it the design of the input device being used, overuse, or both? What responsibilities do hardware manufacturers have in respect to creating safe input devices? If a user becomes injured due to overuse of a device, whose fault is it? Should input devices come with warning labels?
1. **E-Paper** The chapter Inside the Industry box discusses e-paper—an erasable, reusable alternative to traditional paper and ink. While e-paper has many societal benefits (such as reducing the use of traditional paper and ink, as well as the resources needed to create and dispose of them), it has been slow to catch on.

For this project, research the current state of e-paper. What products are available now and what products are due out soon? When a new technology, such as e-paper, that has obvious benefits to society is developed, who (if anyone) should be responsible for making sure it gets implemented in a timely fashion? Do you think businesses or individuals will choose to use e-paper products if the only incentive is a cleaner environment? Or will there need to be economic incentives, such as savings on paper and ink surpassing the cost of e-paper? Would you be willing to switch to a new technology (such as e-paper) that is beneficial to society if it costs more than the existing technology? Is it ethical for an industry or the government to mandate the use of new technologies if they create an additional cost or inconvenience to individuals? At the conclusion of your research, prepare a one-page summary of your findings and opinions and submit it to your instructor.

2. **Section 508** Section 508 is a section of the Rehabilitation Act that refers to requirements for making electronic and information technology accessible to people with disabilities.

For this project, research Section 508 and the Rehabilitation Act in general to see how the law applies to Web site design and to whom the law applies. If you were to set up a personal or small business Web site, would you be legally obligated to conform to Section 508 regulations? What types of features or modifications does a Web site need to include to be Section 508 compliant? How would one go about testing to see if a Web site is Section 508 compliant? Prepare a one-page summary of your findings and submit it to your instructor.

3. **Ergonomic Workspaces** Some aspects of an ergonomic workspace, such as a comfortable chair and nonglaring light, may feel good right from the beginning. Others, such as using an ergonomic keyboard or wrist rest, may take a little getting used to.

For this project, find at least one local store that has some type of ergonomic equipment—such as adjustable office chairs, desks with keyboard drawers, ergonomic keyboards, or notebook stands—on display that you can try out. Test each piece, adjusting it as needed, and evaluate how comfortable it seems. Next, evaluate your usual computer workspace. Are there any adjustments you should make or any new equipment you would need to acquire to make your workspace setup more comfortable? Make a note of any changes you could make for free, as well as a list of items you would need to purchase and the estimated cost. Prepare a short summary of your findings to submit to your instructor. If you made any adjustments to your regular workspace during this project, be sure to include a comment regarding whether or not you think it increased your comfort.
4. **Toxic PCs** As discussed in the chapter, computer hardware can contain a variety of toxic and hazardous materials. Is it ethical for computer manufacturers to continue to use hazardous materials in their products? What if a restriction on these compounds severely limited the types of computer equipment that could be manufactured or significantly increased the price? Is it ethical for consumers to buy products that are made of hazardous materials or are not recyclable? What efforts should be made to recycle e-trash in the U.S. and who is ethically responsible for the cost—the manufacturers, the consumers, or the government? Should the government require the recycling of e-trash? Should it ban the exportation of e-trash?

For this project, form an opinion about the ethical ramifications of toxic PCs and e-trash and be prepared to discuss your position (in class, via an online class discussion group, in a class chat room, or via a class blog, depending on your instructor’s directions). You may also be asked to write a short paper expressing your opinion.

5. **Internet Access: Luxury or Necessity?** A luxury can be defined as something that is an indulgence, rather than a necessity. Most people in the world would view items such as food, shelter, and water as necessities. In the United States, many would likely add electricity and indoor plumbing to that list. Today, many individuals are beginning to view Internet access as a necessity. But, while most people would agree that the Internet offers many conveniences, the question remains: Is it a necessity—that is, is it essential for existence? For instance, are there activities that must be performed online? If so, what about the people that do not have Internet access or chose not to use it? How does this lack of Internet access affect them? Do you view computers and/or Internet access as necessities? Can Internet access be viewed as a necessity even if there are alternative methods for accomplishing the same tasks you might accomplish using the Internet? Why or why not? Are there any products or services you view as a luxury today that might be viewed as a necessity in five years?

For this project, consider whether Internet access in the United States should be viewed as a luxury or a necessity, and form an opinion on this issue. Be prepared to discuss both sides of this issue and your opinion (in class, via an online class discussion group, in a class chat room, or via a class blog). You may also be asked to write a short paper or prepare a short presentation expressing your opinion, depending on your instructor’s directions.

**Instructions:** Go to the Chapter 7 page at www.cengage.com/international to work the following Web Activities.

6. **Interactive Activities** Work the interactive Crossword Puzzle, watch the Video Podcasts and Online Videos, and explore the Further Exploration links associated with this chapter. If you have a SAM user profile, you may have access to hands-on instruction, practice, and assessment of the skills covered in this chapter. Check with your instructor for instructions and the correct URL/Web site to access those assignments.

7. **Student Edition Labs** Work the following interactive Student Edition Labs.
   - Web Design Principles
   - Creating Web Pages

8. **Test Yourself** Review the Online Study Guide for this chapter, then test your knowledge of the terms and concepts covered in this chapter by completing the Key Term Matching exercise, the Self-Quiz, the Exercises, and the Practice Test.
KEY TERM MATCHING

Instructions: Match each term on the left with the definition on the right that best describes it.

1. _____ A computer system that provides the type of advice that would be expected from a human expert.
2. _____ A computer that uses light, such as from laser beams or infrared beams, to perform digital computations.
3. _____ A device, controlled by a human operator or a computer, that can move and react to sensory input.
4. _____ An emerging wireless networking standard that is faster and has a greater range than Wi-Fi.
5. _____ An expert system in which the human brain's pattern-recognition process is emulated by the computer system.
6. _____ A wearable robotic system designed to give an individual additional physical capabilities and protection.
7. _____ The science of creating tiny computers and components by working at the individual atomic and molecular levels.
8. _____ The use of networking technology to provide medical information and services.
9. _____ When a computer performs actions that are characteristic of human intelligence.
10. _____ When computer generated images are overlayed on top of real-time images, such as to overlay information over the photo or video displayed on a mobile phone.

SELF-QUIZ

Instructions: Circle T if the statement is true, F if the statement is false, or write the best answer in the space provided. Answers for the self-quiz are located in the References and Resources Guide at the end of the book.

1. T F Two-dimensional (2D) barcodes can store more data than conventional one-dimensional barcodes.
2. T F Nonvolatile RAM (NVRAM) chips do not lose their contents when the power to the computer is turned off.
3. T F Computers that process data with light are referred to as quantum computers.
4. T F Diagnosing a patient from a distance is referred to as telesurgery.
5. T F One advantage of robot-assisted surgery is faster recovery time.
6. In quantum computing, _____ (which can represent more than two possible states) are used instead of electronic bits.
7. _____ is an emerging wireless networking standard that is designed to provide access to larger geographical areas than Wi-Fi.
8. The _____ is an RFID chip approved to be implanted under a person's skin for identification purposes.
9. A _______ robot is used by the military in combat, such as to ensure locations are safe prior to sending in soldiers.

10. Many products today use carbon _______, which are a byproduct of nanotechnology research.

1. For the following list of emerging devices or technologies, write the appropriate letter (I, P, O, S, or C) in the space provided to indicate whether each device or technology is used for input (I), processing (P), output (O), storage (S), or communications (C).

   a. WiHD          c. 2D barcode          e. NVRAM
   b. OLED          d. holographic cartridge  f. IMOD

2. Supply the missing words to complete the following statements.

   a. _______ storage systems use multiple blue laser beams to store data in three dimensions.
   b. _______ is a form of robot-assisted surgery in which the doctor’s physical location is different from the patient’s physical location and the doctor controls the robot remotely over the Internet or another communications medium.

3. Write the number of the networking standard that best matches each of the following descriptions in the blank to the left of each description.

   a. _______ Used to create a wired home or business network.
   b. _______ Used to create a home network via existing telephone jacks.
   c. _______ Used to send power along with data over networking cables.
   d. _______ Used to connect a building to the Internet over existing power lines.

4. Would an OLED display or an LCD display use more battery power? Explain why.

5. Would Wi-Fi or WirelessHD be better for wirelessly networking two computers within a home? Explain.

1. More and more everyday devices—including cars and other vehicles—are being controlled by computers. There are advantages, such as avoiding possible driver errors and the ability to change the speed of or reroute trains automatically to avoid collisions. But are there potential risks, as well? For example, Thailand’s Finance Minister once had to be rescued from inside his limousine after the onboard computer malfunctioned, leaving the vehicle immobilized and the door locks, power windows, and air conditioning not functioning. Do you think the benefits of increased automation of devices that could put us in danger if they malfunction outweigh the risks? What types of safeguards should be incorporated into computer-controlled cars, subway trains, and other automated vehicles? What about medication dispensers and other automated medical devices?

2. Interference with wireless devices is happening much more often than in the past. For instance, unlicensed walkie-talkies used on TV sets have interfered with police radios, and British air traffic control transmissions have been interrupted by transmissions from nearby baby monitors. If devices that use unlicensed radio frequencies interfere with each other, whose fault is it? The individual for buying multiple products that use the same radio frequency? The manufacturers for not ensuring their products can switch channels as needed to use a free channel? The government for allowing unregulated airwaves? Is there a solution to this problem? Who, if anyone, should be responsible for fixing this problem?
CHAPTER 8 PROJECTS

HOT TOPICS

1. WiMAX vs. Wi-Fi  As discussed in the chapter, WiMAX and Wi-Fi are both wireless networking standards.
   For this project, research WiMAX and Wi-Fi to determine their current status and the differences between the two standards. Are they designed for the same or different purposes? Explain. How are they being used today? Do you think the standards will coexist in the future, or will one eventually replace the other? At the conclusion of your research, prepare a one-page summary of your findings and opinions and submit it to your instructor.

SHORT ANSWER/RESEARCH

2. Today’s Robots  As discussed in the chapter, robots can be used today for a variety of activities in businesses and the military, as well as in the home.
   For this project, select one type of robotic device on the market today—for instance, a robotic toy, vacuum cleaner, or lawn mower; a security or manufacturing robot; a robot used by the military or NASA; or a robotic personal assistant—and research it. Find out what the product does, what it costs, how it is powered and controlled, and if it can be reprogrammed. What are the advantages of the robotics part of the product? Do you think this is a worthwhile or beneficial product? At the conclusion of your research, prepare a one- to two-page summary of your findings and opinions and submit it to your instructor.

HANDS ON

3. Online/Cloud Storage  There are a number of online or cloud storage services (such as ADrive, SkyDrive, and Box.net) designed to allow individuals to back up files online and share specific files with others; specialty online storage services designed for digital photo sharing include Flickr, Photobucket, and SnapFish.
   For this project, visit at least one online/cloud storage site designed for backup and file exchange, and at least one site designed for digital photo sharing. You can try the sites listed above or use a search site to find alternative sites. Tour your selected sites to determine the features each service offers, the cost, the amount of storage space available, and the options for sending uploaded files to others. Do the sites password protect your files, or are they available for anyone with an Internet connection to see? What are the benefits for using these types of storage services? Can you think of any drawbacks? Would you want to use any of the storage sites you visited? Why or why not? At the conclusion of this task, prepare a short summary of your findings and submit it to your instructor.
4. **Emotion Recognition Software** An emerging application is emotion recognition software, which uses camera input to try to read people’s current emotion. The first expected application of such a system is for ATM machines, since they already have cameras installed. Possibilities include changing the advertising display based on the customer’s emotional response to displayed advertising, and enlarging the screen text if the customer appears to be squinting. Is it ethical for businesses using emotion recognition software to read the emotions of citizens without their consent? Proponents of the technology argue that it is no different than when human tellers or store clerks interpret customers’ emotions and modify their treatment of the customer accordingly. Do you agree? Why or why not? Is this a worthy new technology or just a potential invasion of privacy? Would you object to using an ATM machine with emotion-recognition capabilities? Why or why not?

For this project, form an opinion about the ethical ramifications of emotion recognition systems and be prepared to discuss your position (in class, via an online class discussion group, in a class chat room, or via a class blog, depending on your instructor’s directions). You may also be asked to write a short paper expressing your opinion.

5. **Ubiquitous Computing vs. Big Brother** Ubiquitous computing—also known as pervasive computing—suggests a future in which few aspects of daily life will remain untouched by computers and computer technology. Computers and related technology will become embedded into more and more devices, and people will depend on computing technology for an ever-increasing number of everyday activities. But, if all the electronic devices in our lives can communicate with one another automatically, how can we control what they say and whom they say it to? Will these devices be used to track our movements so that the government will always know where we are? Will there really be a “Big Brother” computer that knows everything about everybody? What about personal privacy? How will it be protected? Does the idea of ubiquitous computing concern you or interest you? Is it something that you would like to see become a reality in the near future? Why or why not?

For this project, consider the potential impact of ubiquitous computing on our lives and our privacy and form an opinion about this issue. Be prepared to discuss both sides of this issue and your opinion (in class, via an online class discussion group, in a class chat room, or via a class blog). You may also be asked to write a short paper or prepare a short presentation expressing your opinion, depending on your instructor’s directions.

**Instructions:** Go to the Chapter 8 page at [www.cengage.com/international](http://www.cengage.com/international) to work the following Web Activities.

6. **Interactive Activities** Work the interactive Crossword Puzzle, watch the Video Podcasts and Online Videos, and explore the Further Exploration links associated with this chapter.

   If you have a SAM user profile, you may have access to hands-on instruction, practice, and assessment of the skills covered in this chapter. Check with your instructor for instructions and the correct URL/Web site to access those assignments.

7. **Student Edition Labs** Work the following interactive Student Edition Labs.

   > Project Management  >  Visual Programming  >  Advanced Spreadsheets

8. **Test Yourself** Review the Online Study Guide for this chapter, then test your knowledge of the terms and concepts covered in this chapter by completing the Key Term Matching exercise, the Self-Quiz, the Exercises, and the Practice Test.
### Chapter 1

### Chapter 2

### Chapter 3

### Chapter 4

### Chapter 5

### Chapter 6

### Chapter 7

### Chapter 8