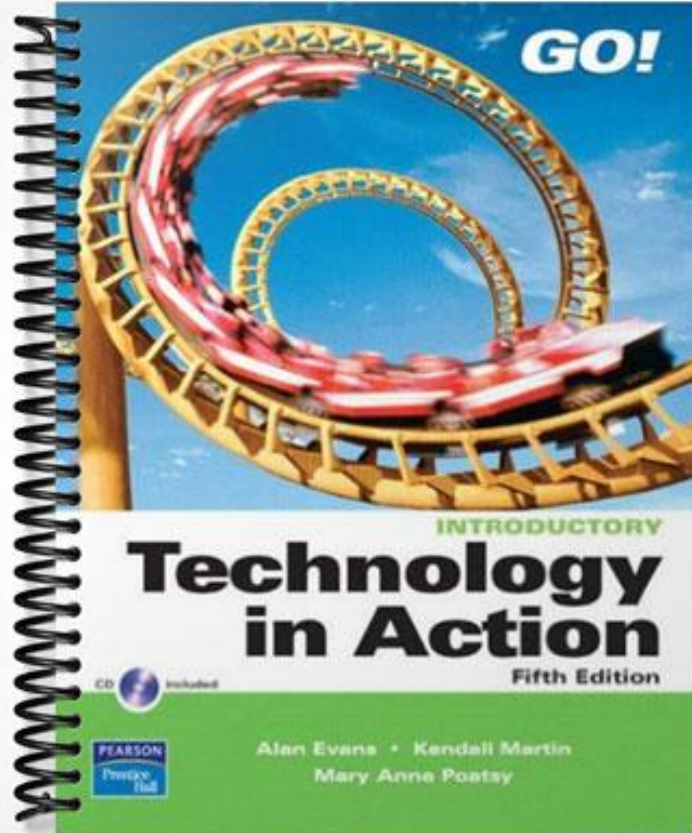


SOLUTIONS MANUAL



GO!

INTRODUCTORY

**Technology
in Action**

Fifth Edition

CD  Included

PEARSON
Twenty-Fifth Edition

Alan Evans • Kendall Martin
Mary Anne Poatsy

End of Chapter Solutions to Accompany *TECHNOLOGY IN ACTION, FIFTH EDITION*

CHAPTER 2 LOOKING AT COMPUTERS: UNDERSTANDING THE PARTS

CHAPTER REVIEW

Buzz Words/Word Bank

CPU
CRT
Dvorak
ergonomics
FireWire
inkjet printer
laser printer
LCD
microphone
monitor
mouse
optical
QWERTY
RAM
ROM
speakers
system unit
USB

Instructions: Fill in the blanks using the words from the Word Bank above.

Austin had been getting a sore back and stiff arms when he sat at his desk, so he redesigned the **(1) ergonomics** of his computer setup. He placed the **(2) monitor** so that it was 25 inches from his eyes and bought an adjustable chair. He also decided to improve his equipment in other ways. His **(3) mouse** was old, so he replaced it with a(n) **(4) optical** mouse that didn't need a mousepad. To plug in the mouse, he used a(n) **(5) USB** port on the back of his **(6) system unit**. He considered buying an alternative keyboard to replace the **(7) QWERTY** keyboard he got with his computer, but he didn't know much about alternative keyboards like the **(8) Dvorak** keyboard so he decided to wait.

Because he often printed flyers for his band, Austin decided to buy a printer that could print text-based pages quickly. Although he decided to keep his **(9) inkjet printer** to print photos, he decided to buy a new **(10) laser printer** to print his flyers faster. While looking at printers, Austin also noticed **(11) LCD** monitors that would take up less space on his desk than the **(12) CRT** monitor he had. Unfortunately, he couldn't afford to buy a new monitor. However, he decided he could afford new **(13) speakers**, because the ones that came with his computer

didn't have subwoofers. He also bought a professional **(14) microphone** a while back for use with his band. Finally, knowing his system could use more memory, Austin checked out prices for additional **(15) RAM**.

Self-Test

Instructions: Answer the multiple choice and true/false questions below for more practice with key terms and concepts from this chapter.

MULTIPLE CHOICE

1. Which devices below are considered input devices?
 - a. Keyboard and mouse
 - b. Scanner and printer
 - c. Hard drive and speakers
 - d. Microphone and CD-ROM drive

ANSWER: A

2. Which of the following is NOT one of the four major functions of a computer?
 - a. Output
 - b. Storage
 - c. Processing
 - d. Calculation

ANSWER: D

3. Which of the following is NOT an output device?
 - a. Printer
 - b. Monitor
 - c. Hard drive
 - d. Speakers

ANSWER: C

4. The resolution of a monitor is governed by
 - a. size of the screen.
 - b. cost of the monitor.
 - c. number of pixels on the screen.
 - d. contrast of the pixels on the screen.

ANSWER: C

5. All of the following are important to consider when buying an LCD monitor EXCEPT
 - a. brightness.
 - b. pixel swap rate.
 - c. viewing angle.
 - d. resolution.

ANSWER: B

6. Restarting the system after it has been completely powered off is called
 - a. a warm boot.
 - b. a standby start.

- c. hibernation.
- d. a cold boot.

ANSWER: D

7. An Ethernet port is used for connecting your computer to
- a. a network.
 - b. a printer.
 - c. a monitor.
 - d. a digital camera.

ANSWER: A

8. Which of the following devices is considered the “brains” of the computer?
- a. Read-only memory
 - b. Central processing unit
 - c. Random access memory
 - d. Motherboard

ANSWER: B

9. Which of the following statements about hard disks is TRUE?
- a. Hard disks are always installed inside the system unit of a computer.
 - b. Hard disks are considered volatile storage devices.
 - c. With the rise of flash drives, hard disks are becoming legacy technology.
 - d. Hard disks are considered non-volatile storage devices.

ANSWER: D

10. Why is an ergonomically correct set-up for your computer system essential?
- a. Reduces eyestrain
 - b. Prevents repetitive strain injuries
 - c. Complies with federal laws
 - d. a & b
 - e. b & c
 - f. a & c
 - g. All of the above
 - h. None of the above

ANSWER: D

TRUE/FALSE

False 1. The terms *data* and *information* can be used interchangeably.

False 2. ROM is volatile storage that is located on the motherboard.

False 3. The CPU is located on the expansion board.

True 4. USB ports are the most popular port used for connecting peripherals to a computer.

True 5. Keeping your wrists flat while typing at a computer will help prevent repetitive strain injuries.

Critical Thinking Questions

1. Keyboard of the Future

What do you think the keyboard of the future will look like? What capabilities will it have that keyboards currently don't have? Will it have ports? Cables? Special communications abilities?

Students with limited experience will not have a lot of foundation with respect to this topic, but it is a safe bet that most will respond that keyboards will either be wireless (no ports/cables) or nonexistent, replaced by speech-recognition devices.

2. Mouse of the Future

What do you think the mouse (or other pointing device) of the future will look like? What sorts of improvements on the traditional mouse can you imagine? Do you think there will ever be a day when we won't need mice and keyboards to use our computers?

Students with limited experience will not have a lot of foundation with respect to this topic, but it is a safe bet that most will respond that mice will either be wireless or nonexistent, replaced by speech-recognition devices.

3. Storage Devices of the Future

How do you think storage devices will change in the future? Will increased storage capacity and decreased size affect the ways in which we use computers? Will we need storage devices in the future, or will we access all of our data via the Internet?

As computer circuitry becomes less real-estate intensive, computers will become more portable, perhaps hand held. Some students may be aware that it is very likely that storage of data and programs may not even be local to their own computers but accessed remotely. This is already true in many environments.

4. Computers Decreasing Productivity?

Can you think of any situations in which computers actually decrease productivity? Why? Should we always expect computers to increase our productivity? What do you think the impact of using computers would be:

- a. in a third-grade classroom?
- b. in a manager's office for a large chain supermarket?
- c. for a retired couple who purchase their first PC?

Every student (and instructor no doubt!) will have a horror story to tell about how computers decreased their productivity at some point. Time spent implementing software, fixing failures, coping with the fallout from viruses, and unwanted adware are all challenges we face every day, costing us time, patience, and energy. At some point, most people will be tempted to take a sledgehammer to their computer. Additionally, gaming software, blogging, instant messaging, and e-mail can all be seen as features that may lower productivity. With all these features (and more) so close at hand, it is easy for individuals to become sidetracked!

5. "Smart" Homes

The Smart Medical Home project of the University of Rochester's Center for Future Health is researching how to use technology to monitor many aspects of your health. The Smart Medical Home is the creation of a cross-disciplinary group of scientists and engineers from the college, the Medical Center, and the university's Center for Future Health. This particular "smart home" includes a sophisticated computer system that helps keep track of items such as eyeglasses or keys, and the kitchen is equipped with a new kind of packaging to signal the presence of dangerous bacteria in food. Spaces between ordinary walls are stuffed with gadgetry, including banks of powerful computers.

- a. What abilities should a smart home have to safeguard and improve the quality of your life?

b. Could there be potential hazards of a smart home?

There will be many pros and cons stated here! The hazard of a smart home would be a computer failure—if you have ever experienced the inability to open your garage door remotely on a cold, rainy night, that will explain it! But if every aspect of your home is computer-dependent, this could be a real disaster if there is no backup plan.

6. Toy or Computer?

When do you think a toy becomes a computer? The Microsoft Xbox 360 has a hard disk drive, a processor with three cores, internal RAM, and wireless capability. Apple iPods also have hard disk drives (or flash memory and a processor). Are these devices computers or toys? What capabilities do you think the next generation gaming consoles and iPods should have?

If we take the book’s definition literally, the Xbox 360 and Apple iPods are both, in fact, computers, containing the four main components of input, processor, storage, and output. Increased ability to communicate wirelessly between devices, or between the device and the user’s home computer, may be one idea that is offered.

Team Time

PCs vs. Apples: Which Is Best?

This exercise gives students the opportunity to explore computer systems they may not be familiar with and to learn that different situations may require different responses. The following rubric may be useful for grading purposes.

Rubric	Beginning 1 point	Developing 2 points	Proficient 3 points	Exemplary 4 points	Score
Individual Effort	There was very little effort or understanding of the topic shown.	There was evidence of effort but it lacked in preparation and understanding.	Clear learning on the topic has occurred.	A sound understanding of the topic was exhibited with enthusiasm and creativity.	
Team Effort	Team members did not function as a group when given the opportunity. There was only individual work with no evidence of collaboration.	Team members had some major problems working as a group. There was little collaboration and teamwork evident.	The team members mostly worked well together, with few problems. There could have been improvement in the level of teamwork that was utilized.	The team worked as a cohesive unit. There was mature collaboration, compromise, and discussion evident at all times.	

Rubric	Beginning 1 point	Developing 2 points	Proficient 3 points	Exemplary 4 points	Score
Final Product	The final presentation had major factual, grammatical, spelling, and formatting errors. It seemed rushed and incomplete.	The final presentation had factual, grammatical, spelling, or formatting errors but was complete.	The final presentation was a carefully developed product with few factual, grammatical, spelling, or formatting errors.	The presentation was developed with care and creativity making it interesting, polished, and error-free.	
Instructor Feedback	Little or no attempt was made to receive or incorporate feedback from the instructor.	Feedback was received, but none of the suggestions were incorporated into the presentation.	Feedback was received and some suggestions were incorporated into the presentation.	Feedback was received and the suggestions were incorporated into the presentation.	
Evaluation	0 points No assessments were completed and handed in to the instructor.	1 point One assessment was completed and handed in to the instructor.	2 points All assessments were completed and handed in to the instructor.		

Multimedia

In addition to the review materials presented here, you'll find additional materials featured with the book's multimedia, including the *Technology in Action* Student Resource CD and the Companion Web site (www.prenhall.com/techinaction), which will help reinforce student understanding of the chapter content. These materials include the following:

ACTIVE HELPDESK

These exercises are designed to provide the student with an interactive experience that will help them to extend their knowledge of topics in this chapter. The student plays the "role" of a Helpdesk analyst and provides answers to *commonly* asked questions in a rich, simulated online experience. Helpdesk calls can be found on the Train and Assess IT Web site, through your online course, or on the Student CD. After successfully completing the Helpdesk call, students will be able to access the Helpdesk Cheat Sheet, which summarizes the key points in each call.

The Helpdesk calls related to this chapter are:

- Using Input Devices
- Using Output Devices

- Understanding Bits and Bytes

SOUND BYTES

Sound Bytes are dynamic multimedia tutorials that help demystify even the most complex topics. Students view video clips and animations that illustrate computer concepts, and then apply what they've learned by reviewing Sound Byte Labs, which include quizzes and activities specifically tailored to each Sound Byte.

The Sound Bytes for this chapter are listed here and can be found on the Student Resource CD and on the Companion Web site (www.prenhall.com/techinaction):

- Port Tour: How Do I Hook It Up
- Virtual Computer Tour
- Healthy Computing

COMPANION WEB SITE

The *Technology in Action* Companion Web site includes a variety of additional materials to help students review and learn more about the topics in this chapter. The resources available at www.prenhall.com/techinaction include:

- **Online Study Guide.** Each chapter features an online true/false and multiple-choice quiz. Students can take these quizzes, automatically check the results, and e-mail the results to their instructor.
- **Web Research Projects.** Each chapter features a number of Web research projects that ask students to search the Web for information on computer-related careers, milestones in computer history, important people and companies, emerging technologies, and the applications and implications of different technologies.