Enhanced Microsoft Office 2013 Illustrated Fundamentals 1st edition Hunt Solutions Manual

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Enhanced Microsoft Office 2013 Illustrated

Computer Concepts Unit A: Understanding Essential Computer Concepts

A Guide to this Instructor's Manual:

We have designed this Instructor's Manual to supplement and enhance your teaching experience through classroom activities and a cohesive unit summary.

This document is organized chronologically, using the same heading in **blue** that you see in the textbook. Under each heading you will find (in order): Lecture Notes that summarize the section, Figures and Boxes found in the section, if any, Teacher Tips, Classroom Activities, and Lab Activities. Pay special attention to teaching tips, and activities geared towards quizzing your students, enhancing their critical thinking skills, and encouraging experimentation within the software.

In addition to this Instructor's Manual, our Instructor's Resources Site also contains PowerPoint Presentations, Test Banks, and other supplements to aid in your teaching experience.

For your students:

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Unit Objectives

Students will have mastered the material in Understanding Essential Computer Concepts Unit A when they can:

- Recognize they live and work in a digital world
- Distinguish types of computers
- Identify computer system components
- Compare types of memory
- Summarize types of storage media
- Differentiate between input devices
- Explain output devices
- Describe data communications
- Define types of networks
- Assess security threats
- Understand system software
- Describe types of application software

Concepts 2: Recognize You Live and Work in the Digital World

LEARNING OUTCOMES

- Identify benefits of Internet connectivity

LECTURE NOTES

- Discuss how over the past 20 years, the Internet has become an indispensable tool for businesses and people's everyday needs.
- Review ways we use computers in our everyday lives including to search for information, to communicate with others, to telecommute, and to use cloud computing.
- Ask students for concrete examples of how they use the Internet in their everyday lives.

FIGURES: A-1, A-2, A-3

BOXES

1. Quick Tip: Many computers come with a built-in camera and microphone for use in videoconferencing.
2. Quick Tip: Some companies use a virtual private network (VPN) that allows users to log in from a remote location and easily access documents or communicate with coworkers.
3. Clues to Use: How to be a good online citizen
   It's important to understand that your Internet activities can have lasting repercussions on your work and life. For instance, while social networks such as Facebook and Twitter let you hang out with our friends online, some employers are known to keep an eye on employee accounts.
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TEACHER TIP:
This unit has a lot of conceptual information. It is wise to take the time to go through each lesson and make sure that students clearly understand the material. Having various computer components available for them to use in "hands-on" exploration would be helpful and would break up the reading. Make sure students have a firm grasp on the hardware material before moving on to the software; many students are anxious to start "clicking" and will not grasp the basic computer concepts that they will need as they move forward with application software.

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CLASSROOM ACTIVITIES

1. Critical Thinking:

How have computers altered your life in the last few years? What differences do you see in the world around you? Has it changed the way you shop? Has it changed the way you purchase groceries or gasoline? Have computers altered the way you accomplish school assignments or retrieve information?

2. Quick Quiz:

1. A basic form of Internet communication which allows a person to send a message to another person is called _____ . (email, electronic mail)
2. A form of Internet communication that allows two-way transmission of audio and video is called _____ . (videoconferencing)
3. To help you find information on the Web, you use a(n) _____, which is an online tool that allows you to enter keywords into a search box. (search engine)

Concepts 4: Distinguish Types of Computers

LEARNING OUTCOMES

- Define a computer
- Distinguish types of computers

LECTURE NOTES

- Spend some time explaining that there are four basic types of computers: personal computers, hand-held computers, mainframe computers, and supercomputers. If possible, show examples of these.
- Explain that these classifications are based on size, speed, and cost.
- Personal computers come in several forms including desktops, laptops, notebooks, tablets, subnotebooks, and slate computers.
- Hand-held computers are small enough to fit in your hand with a variety of capabilities depending on cost.
- A mainframe computer is larger and more powerful than a personal computer and can handle many more users. It is typically used for centralized storage, processing, and data management.
- The supercomputer is the largest and fastest of all the computers and is used for high-volume computing tasks.

FIGURES: A-4, A-5, A-6

BOXES

1. Quick Tip: In common usage, the term “PC” refers to personal computers running the Microsoft Windows operating system. Computers sold by Apple run the Mac (short for “Macintosh”) operating system, and are referred to as Macs.
2. Clues to Use: Computers are more personal than ever
   Technology is constantly evolving and improving, which means that computer hardware becomes smaller and more powerful. For example, today’s desktop PCs are far more powerful than the mainframe computers of a few decades ago, and current handheld smartphones are more capable

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than the first laptops. As the lines between types of devices become less distinct, consumers may need fewer devices to accomplish their tasks.

TEACHER TIP:
If possible, provide catalogs that show various computers, such as desktop, laptop, tablet, and handheld. Have students compare the descriptions of each device. Discuss when one type of computer might be used over another type.

CLASSROOM ACTIVITIES
1. Critical Thinking:
In what ways could you use a computer in your home? If you were going to buy a computer, what type of computer would you buy: a desktop computer, a laptop, a tablet, or a hand-held computer? What features would you look for?

2. Quick Quiz:
   1. T/F: A laptop and a notebook computer are similar types of computers. (T)
   2. T/F: Tablets are considered handheld computers. (F)

Concepts 6: Identify Computer System Components

LEARNING OUTCOMES
- Define hardware and software
- Define motherboard and processor
- Define input and output

LECTURE NOTES
- Explain that a computer system consists of hardware and software.
- Explain that hardware refers to the physical components of a computer system, and that these components are used for processing, input, and output.
- Explain that the term software refers to the intangible components of the computer system such as the programs (or lists of instructions) that the computer needs to perform specific tasks.
- Go over the definitions of data, processing, and commands.

FIGURES: A-7, A-8

BOXES
1. Clues to Use: About microprocessor speeds
   How fast a computer can process instructions depends partially on the speed of the microprocessor. Among other factors, the speed of the microprocessor is determined by its clock speed, word size, and whether it is single or multicore. Clock speed is measured in megahertz (MHz), millions of cycles per second, or in gigahertz (GHz), billions of cycles per second. Word size refers to the number of bits—the smallest unit of information in a computer—that are processed at one time; for example, a 32-bit processor processes 32 bits at a time. A computer with a large word size can process faster than a computer with a small word size. PCs come with 32-bit or 64-bit processors. Finally, a dual-core processor, one that has two processors on a single chip, can process information

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up to twice as fast as a single-core processor, one with one processor on the chip. Likewise, a quad-core processor, with four processors on a chip, processes information up to four times as fast as a single-core processor.

TEACHER TIP:
If possible, use an old computer from which you can remove the cover and potentially the hardware components to illustrate the computer's physical components (such as the motherboard and the processor). Show what you mean by the peripheral devices.

CLASSROOM ACTIVITIES
1. Assign a Project:
Ask students to make a drawing of a computer they use frequently. Have them label the hardware components they can see. Ask them to include any peripheral devices they use. Then have them make a list of the software they use on the computer.

2. Quick Quiz:

1. T/F: Software refers to the physical components of a computer. (F)
2. T/F: The motherboard is a circuit board. (T)
3. T/F: Computers need peripheral devices to accomplish the input, output, and storage functions. (T)

Concepts 8: Compare Types of Memory

LEARNING OUTCOMES

- Define memory
- Distinguish types of memory

LECTURE NOTES

- Review the five types of memory with students: RAM, cache memory, virtual memory, ROM, and CMOS memory.
- Explain that the amount of RAM in a computer can usually be upgraded and that adding more RAM is a cost-effective way to improve the performance of the computer.

FIGURE: A-9, A-10

BOXES
1. Quick Tip: When the computer is off, RAM is empty.
2. Quick Tip: You can often add more RAM to a computer by installing additional memory cards on the motherboard. You cannot add ROM; it is permanently installed on the motherboard.
3. Clues to Use: Upgrading RAM
One of the easiest ways to make your computer run faster is to add more RAM. The more RAM a computer has, the more instructions and data can be stored there. You can often add more RAM to a computer by installing additional memory cards on the motherboard. Currently, you can buy from 512 MB to 16 GB RAM cards, and usually, you can add more than one card. Check your computer's specifications to see what size RAM cards the slots on your motherboard will accept. Note that if your

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computer has a 32-bit processor, it can't use more than 4 GB of RAM, even if the computer has places to plug in more cards.

TEACHER TIP:
Use a container to demonstrate RAM and virtual memory. Fill the container with items, and then remove some and put in others.

CLASSROOM ACTIVITIES
1. Class Discussion:
Refer to FIGURE A-9 on page Concepts 9, and ask students to explain in their own words why virtual memory is slower than RAM.

2. Quick Quiz:
   1. T/F: RAM is sometimes referred to as involatile memory. (F)
   2. T/F: Cache memory is sometimes called CPU cache. (T)
   3. T/F: The CMOS chip is activated after the boot process is complete. (F)

LAB ACTIVITY
Ask the students to find out how much RAM is on the computer they are using. To do this, right-click My Computer, then click Properties on the shortcut menu. The amount of RAM appears on the General tab.

Concepts 10: Summarize Types of Storage Media

LEARNING OUTCOMES
- Define storage media
- Distinguish types of storage media

LECTURE NOTES
- All of the data that is generated through your input or the computer's processing needs to be stored in a fashion that can be retrieved later. This is done through various types of storage devices and media.
- Point out that most computers have a hard disk drive inside the computer. The hard disk drive is a type of magnetic stoage device.
- Point out that optical storage devices use laser technology to read and write data.
- Point out that CDs and DVDs are optical storage media. Most newer computers come with a DVD writer capable of reading and writing DVDs and CDs.
- USB flash storage devices are small, fast, convenient ways to store data. Have students look at FIGURE A-12 for a visual of a flash storage device.

FIGURES: A-11, A-12

BOXES
1. Quick Tip: Optical storage devices, such as CDs and DVDs, are much more durable than magnetic storage media.

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2. Quick Tip: There is only one way to insert a flash drive, so if you're having problems inserting the drive into the slot, turn the drive around and try again.
3. Clues to Use: Rewriting on optical storage
CDs that you buy with software or music already on them are CD-ROMs (compact disc read-only memory)—you can read from them, but you cannot record additional data onto them. To store data on a CD, you need to record it on a CD-R (compact disc recordable) or CD-RW (compact disc rewritable) drive and a CD-R or CD-RW disc. On a CD-R, after the data is recorded, you cannot erase or modify it, but you can add new data to the disc, as long as the disc has not been finalized. In contrast, you can re-record a CD-RW. Recordable DVD drives are also available. As with CDs, you can buy a DVD to which you can record only once, or a rewritable DVD to which you can record and then re-record data. Recordable DVDs come in two formats, DVD-R and DVD+R, and likewise re-recordable DVDs come in two formats, DVD-RW and DVD+RW. DVD drives on new computers are capable of reading from and writing to both -RW and +RW DVDs and CDs, as well as DVDs with two layers. BD-R are Blu-ray discs that you can record to once, and BD-RE are Blu-ray discs that you can record to multiple times. You need a Blu-ray drive to use Blu-ray discs.

CLASSROOM ACTIVITIES
1. Critical Thinking:
Optical storage is more durable than magnetic storage. Why?

2. Quick Quiz:
   1. The first standard optical storage device available for personal computers was the ____. (CD (compact disc))
   2. ____ is similar to ROM except that it can be written to more than once. (Flash memory)
   3. The most common type of magnetic storage media is the ____. (hard disk, hard disk drive)

Concepts 12: Differentiate Between Input Devices

LEARNING OUTCOMES
- Define input devices
- Identify various input devices

LECTURE NOTES
- Input devices (such as a keyboard, a mouse, or another pointing device) provide a method for inputting data and commands.
- Use the figures in the lesson to show the various types of input devices.
- Point out that scanners and microphones are also input devices.

FIGURES: A-13, A-14, A-15

BOXES
1. Quick Tip: You may also be able to avoid repetitive motion injuries by taking frequent breaks from computer work and stretching your hands, wrists, and arms.
2. Quick Tip: Tablets and smartphones typically feature a "virtual keyboard" for inputting text.
3. Clues to Use: Understanding assistive devices

Advances in computer accessibility mean that people with physical impairments or disabilities can use computers. For example, people who cannot use their arms or hands instead can use foot, head, or eye

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movements to control a specialized assistive device. Those with poor vision can use keyboards with large keys, screen enlargers that increase the size of objects on the monitor, or screen readers that speak on-screen content aloud. Brain-computer interface technology may soon allow you to control a computer with your thoughts.

CLASSROOM ACTIVITIES
1. Class Discussion:
Look at the two keyboards shown in FIGURE A-13 on page Concepts 13. How are the keyboards similar? How are they different? Which do you think would be helpful in lessening repetitive motion injuries? Why?

2. Critical Thinking:
Ask students to consider the far-reaching impact of assistive devices for people with physical challenges. Computers can help some people with physical impairments live independently. Does this have any impact on society as a whole? Does anyone know anyone who uses a computer with an assistive device?

Concepts 14: Explain Output Devices

LEARNING OUTCOMES
- Define output device
- Identify different output devices

LECTURE NOTES
- Output devices are those that enable you to view the results of your work and the processing work of the computer.
- Typical output devices are monitors and printers.
- Most flat panel monitors use LCD technology. Some flat panel monitors use LEDs to provide the backlight.
- The most commonly used printers are laser and inkjet.
- Explain to students that you will typically find laser printers in businesses due to their quick and efficient, high-quality output.
- Speakers allow the user to hear sound from the computer.

FIGURES: A-16, A-17

BOXES
1. Clues to Use: About multifunction printers
   A multifunction printer (MFP) saves office space by combining several devices into one. Most small office/home office (SOHO) MFPs can print, scan, copy, and fax documents. Some MFPs also feature camera card readers and photo printing; this allows the user to print photos quickly without first loading them into a PC. MFPs can be made available to a network when connected to a computer or server. Some MFPs can also connect to a network wirelessly.

TEACHER TIP:

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Discuss the options available for screen size, resolution, and dot pitch that students should consider when purchasing a monitor.

CLASSROOM ACTIVITIES

1. Quick Quiz:

1. What kind of backlighting is more energy efficient than ordinary backlighting? (C)
    a. flat panel
    b. LCD
    c. LED
2. Which of the following expresses the number of pixels a monitor displays in width and height? (A)
    a. resolution
    b. dot pitch
    c. graphics card
3. Which of the following produces output by spraying ink onto paper? (B)
    a. laser printer
    b. inkjet printer
    c. dot-matrix printer

2. Class Discussion:

How much of a consideration should the difference in speed between laser and inkjet printers be when purchasing a printer? Inkjet printers typically print 6-10 pages per minute, and a laser printer prints from 20-30 (and more, depending on cost) pages per minute.

Concepts 16: Describe Data Communications

LEARNING OUTCOMES

- Define data communications terms
- Identify PC slots and ports

LECTURE NOTES

- In order for peripheral devices to be useful, they must have a way of transmitting data to the microprocessor.
- Each device has a port and a cable that connects into the computer (either externally or internally).
- These ports, in turn, connect to a controller card that provides the electrical connection to the main computer board.
- There are several types of ports available with microcomputers, including parallel, serial (including USB), SCSI, MIDI and Ethernet.
- Each of type of port has different capabilities as far as data transmission, and each is designed to work with different peripheral devices.

FIGURE: A-18

BOXES

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1. Quick Tip: An internal peripheral device such as a hard disk drive may plug directly into the motherboard, or it may have an attached controller card.
2. Clues to Use: How computers represent and interpret data
   A computer sees the world as a series of binary digits or bits. A bit can hold one of two numerical values: 1 for "on" or 0 for "off." You might think of bits as miniature light switches. Of course, a single bit doesn't hold much information, so eight of them are combined to form a byte, which can be used to represent 256 values. Integer value 1 equals 00000001 (only 1 bit is "flipped" on), while the byte that represents 255 is 11111111 (all the bits are flipped on). A kilobyte (KB or K) is 1024 bytes, or about a thousand bytes. A megabyte (MB) is 1,048,576 bytes (about a million bytes). A gigabyte (GB) is about a billion bytes, and a terabyte (TB) is about a trillion bytes.

CLASSROOM ACTIVITIES

1. Critical Thinking:

If you change or upgrade the operating system on a computer, why would you need to update the device drivers?

2. Quick Quiz:

1. Ports connect to a ____ inside the computer. (A)
   a. controller card
   b. cable
   c. USB connector
2. Which of the following is a computer program that handles the transmission protocols between a computer and a peripheral device? (B)
   a. controller
   b. device driver
   c. USB connector
3. Rules that establish an orderly transfer of data between the sender and the receiver are called ____. (A)
   a. protocols
   b. slots
   c. drivers

LAB ACTIVITY

Examine the back of a computer and have the class work together to identify each of the ports.

Concepts 18: Define Types of Networks

LEARNING OUTCOMES

- Define networking terms
- Identify network types

LECTURE NOTES

- A network enables you to share data and resources with others.
- A typical network configuration is a local area network (LAN) where the computers and devices are located relatively close to each other.

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- If a computer is connected to a network, it is referred to as a workstation. Each workstation requires a network interface card to create the communications channel between the network and the computer.
- The computer workstation must also have network software to establish communications protocols.
- Each device on the network is referred to as a node.
- A wide area network (WAN) is a network of LANs.
- Wireless networking has grown in popularity over the past few years.
- Wi-Fi is used to connect computers to a LAN over a short distance.
- Personal area networks (PANs) are used to connect devices in close proximity to each other. They typically use infrared and Bluetooth technology to communicate.

FIGURE: A-19

BOXES
1. Quick Tip: The World Wide Web is subset of the Internet, and is a huge database of information stored on network servers.
2. Clues to Use: Understanding telecommunications
Telecommunications means communicating over a relatively long distance using a phone line or some other data conduit. To make this connection, you must use a modem. A device that converts the digital signals that your computer outputs into analog signals that can travel over ordinary phone lines or cable lines. Many desktops and laptops come with a built-in 56K modem that can send and receive about 56,000 bits per second (bps) over a phone line. This is slow by modem standards, so many people opt for a high-speed connection using DSL (digital subscriber line), which also operates over a phone line, or using a cable connection. If you go this route, you may need to purchase or rent an external DSL or cable modem. DSL and cable modems typically connect to a computer's NIC (network interface card) via an Ethernet cable. High-speed connections are often called broadband connections.

TEACHER TIP:
Explaining how the network students are using is set up may help clarify the terms used in this section. It may also give students a better understanding of the systems on which they will work.

CLASSROOM ACTIVITIES
1. Class Discussion:
Building on the networking concepts developed in this lesson, explain to students that the Internet, which was originally developed for the government to connect researchers around the world who needed to share data, is now the largest network in the world.

2. Assign a Project:
Ask students to identify at least three networks at school. They should be able to describe them as LANs, WANs, WLANs, or PANs.

LAB ACTIVITIES
1. Use a Web browser to search for and view the information available on any given topic or give a specific location to find

2. Use an email program to demonstrate sending and receiving a message.
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Concepts 20: Assess Security Threats

LEARNING OUTCOMES
- Define types of security threats
- Establish importance of good security

LECTURE NOTES
- Security refers to the steps a computer owner takes to prevent unauthorized use of or damage to a computer.
- Malware is a broad term that describes any program that is intended to cause harm or convey information to others without the owner's permission.
- Antivirus software searches executable files for the sequences of characters that may cause harm and disinfects the files by erasing or disabling those commands.
- Spyware tracks a computer user's Internet usage and sends this data back to the company or person that created it without the computer user's permission or knowledge.
- Point out that adware is different than spyware—adware is installed on a computer with the user's permission.
- A firewall prevents other computers on the Internet from accessing a computer and prevents programs on a computer from accessing the Internet without the computer user's permission. A firewall can be either hardware or software.
- Make students aware of the practices of spoofing and phishing.
- Pharming is less common because a hacker would need to hack directly into a DNS server.

FIGURES: A-20, A-21

BOXES
1. Quick Tip: Some specific types of viruses are called worms; another type is a Trojan horse. Antivirus software usually protects against both types.
2. Quick Tip: Adware is software installed with another program usually with the user's permission that generates advertising revenue for the program's creator by displaying ads.
3. Quick Tip: If you suspect you've received a phishing message, don't click any links in the email. Instead, open your browser and type the correct URL into the address bar.
4. Clues to Use: Protecting information with passwords
You can protect data on your computer by using passwords. You can set up accounts on your computer for multiple users and require that all users sign in with a user name and password before they can use it. This is known as logging in or logging on. You can also protect individual files on your computer so anyone who tries to access a file must type a password. Many Web sites, especially e-commerce and banking sites, require a user name and password to access the information stored there. To prevent anyone from guessing your passwords, always create and use strong passwords. A strong password consists of at least eight characters of upper- and lowercase letters and numbers. Avoid using easy to obtain personal information in your passwords, such as birthdays and addresses, and always create different passwords that are unique to each website you use.

TEACHER TIP:

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Reinforce that one way to avoid being tricked into divulging personal information on a spoofed Web site is to type URLs directly into a browser rather than clicking a URL sent in an e-mail message from a company.

CLASSROOM ACTIVITIES
1. Class Discussion:
Discuss each of the "safe computing" practices listed in the lesson. How important is each one?

2. Assign a Project:
There are many brands of both commercial and free antivirus software packages. Have students find an example of each and use the Web to research the ratings for the two they pick. Is there a reason to pick one over the other?

Concepts 22: Understand System Software

LEARNING OUTCOMES
- Define system software
- Identify types of system software

LECTURE NOTES
- Discuss the fundamental operations of the computer that are managed by system software.
- There are four types of system software: operating systems, utility, device drivers, and programming languages.
- Operating system software controls basic input and output, allocates system resources, manages storage space, maintains security, and detects equipment failure.
- Utilities (another type of system software) aid the operating system by taking over some of its responsibility for allocating hardware resources.
- A device driver is system software that aids the computer in communicating with individual peripheral devices.
- Computer programming languages are the system software that programmers use to write computer instructions.
- Many of the components of system software work hand-in-hand with each other to assist you in accomplishing tasks.
- The Clues to Use, on page Concepts 23, discusses the hardware requirements for Windows 8, Microsoft's newest operating system.

FIGURES: A-22, A-23

BOXES
1. Quick Tip: As part of its security responsibility, your computer's operating system may require you to enter a username and password, or it may scan the computer to protect against viruses.
2. Clues to Use: Examining Windows 8 hardware requirements
Windows 8, the newest version of the Windows operating system, requires a computer with at least a 1 GHz processor, 1 GB of RAM for the 32-bit version or 2 GB of RAM for the 64-bit version, a DirectX 9 graphics processor, 128 MB of specialized graphics RAM, and 16 GB of available space for the 32-bit

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version or 20 GB for the 64-bit version. Keep in mind that these are the minimum recommendations. To prevent your computer from slowing to a crawl, you should consider upgrading the amount of RAM and the processor speed.

CLASSROOM ACTIVITIES

1. Group Activity:

Students who have never used anything other than a GUI may not appreciate how easy GUIs make it to accomplish specific tasks. Click the Start button, and then click Documents and demonstrate the various ways to display the files and folders contained in the Documents folder. Next, open a command window by clicking the Start button, clicking All Programs, clicking Accessories, and then clicking Command Prompt. In the window, type cd Documents, press [Enter], type dir, and then press [Enter] again. Compare this list to the open window. (Click the Close button to close the command window.)

2. Quick Quiz:

1. T/F: An operating system allocates system resources, manages storage space, maintains security, detects equipment failure, and controls basic input and output. (T)
2. T/F: A system resource is a liaison between the user and all of the computer's hardware and software. (F)
3. T/F: D++ is an example of a popular programming language. (F)

Concepts 24: Describe Types of Application Software

LEARNING OUTCOMES

- Define application software
- Identify types of application software

LECTURE NOTES

- Spend an appropriate amount of time explaining application software.
- Some students may be familiar with some computer programs, but many in the class may not have a clear understanding of these terms.
- Explain that application software, which is commonly referred to as computer programs, is the software that enables you to perform specific tasks with your computer.
- Some typical tasks you can perform are creating documents and spreadsheets, managing databases, and creating graphics and multimedia presentations.
- All of these applications have features and tools built into them that aid you in achieve the best results for the project on which you are working.

FIGURES: A-24, A-25

BOXES

1. Quick Tip: To duplicate or move text, document production software allows you to perform copy-and-paste and cut-and-paste operations.

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2. Quick Tip: In Excel, a workbook is a file made up of multiple worksheets. The terms spreadsheet and worksheet are often used interchangeably.

TEACHER TIP:
Give some examples of application software, which students may be familiar with or may have, at least, heard advertised or talked about by others (e.g., Microsoft Word, Adobe Photoshop). It will be helpful for students who are not familiar with application software to have an in-class demonstration of a few different types of applications with an explanation of what they can accomplish with each type.

CLASSROOM ACTIVITIES
1. Class Discussion:
Have students use the descriptions of application software on page Concepts 24 to decide which type of computer program is best-suited to complete the following tasks:

- catalogue a music collection (database management)
- write a five-paragraph essay (document production)
- remove "red-eye" from a photograph (photo editing)
- create a To-Do list with due dates (information management)
- write a 40-page paper (document production)
- create a budget (spreadsheet)

End of Chapter Material

- Concepts Review – Includes screen identification, multiple choice, and matching questions.

- Independent Challenges 1, 2, and 3 – Provides additional hands-on exercises that mirror the progressive style of the lesson material.

- Independent Challenge 4 – Provides an opportunity for students to explore a real world focus to apply the unit skills, students create documents that will benefit their everyday lives.

Glossary of Key Terms

- anti-spyware software (Concepts 20)
- antivirus software (Concepts 20)
- application software (Concepts 24)
- architecture (Concepts 6)
- BD-R (Concepts 11)
- BD-RE (Concepts 11)
- binary digits (Concepts 17)
- BIOS (basic input/output system) (Concepts 8)
- bits (Concepts 17)
- bits per second (bps) (Concepts 19)
- Bluetooth (Concepts 18)
- Blu-ray (Concepts 10)
- boot process (Concepts 8)
- booting up (Concepts 8)
- bridging (Concepts 18)
- broadband connections (Concepts 19)
- browser (Concepts 20)
- built-in graphics card (Concepts 14)
- byte (Concepts 17)
- cable (Concepts 16)
- cache memory (Concepts 8)
- cards (Concepts 6)
- CD (compact disc) (Concepts 10)
- CD-R (compact disc recordable) (Concepts 11)
- CD-ROM compact disc read-only memory (Concepts 10)

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- CD-RW (compact disc rewritable) (Concepts 11)
- Cells (Concepts 24)
- central processing unit (CPU) (Concepts 6)
- channel (Concepts 16)
- circuit board (Concepts 6)
- circuits (Concepts 6)
- client/server network (Concepts 18)
- clip art (Concepts 24)
- clock speed (Concepts 7)
- commands (Concepts 6)
- complementary metal oxide semiconductor (CMOS) memory (Concepts 8)
- computer (Concepts 4)
- computer accessibility (Concepts 13)
- computer system (Concepts 6)
- configuration (Concepts 6)
- controller card (Concepts 16)
- CPU cache (Concepts 8)
- CSS (Concepts 24)
- data (Concepts 6)
- data bus (Concepts 16)
- data communications (Concepts 16)
- data file (Concepts 10)
- database (Concepts 24)
- database management software (Concepts 24)
- desktop computer (Concepts 4)
- device driver (Concepts 16)
- display (Concepts 14)
- display resolution (Concepts 14)
- DNS server (Concepts 20)
- document production software (Concepts 24)
- dots per inch (dpi) (Concepts 14)
- driver (Concepts 16)
- DSL (digital subscriber line (Concepts 19)
- dual-core processor (Concepts 7)
- DVD (Concepts 10)
- DVD-R (Concepts 11)
- DVD+R (Concepts 11)
- DVD-RW (Concepts 11)
- DVD+RW (Concepts 11)
- DVI (digital video interface) (Concepts 16)
- email (Concepts 2)
- ergonomic (Concepts 12)
- Ethernet port (Concepts 16)
- executable file (Concepts 10)
- expansion card (Concepts 16)
- expansion port (Concepts 16)
- expansion slots (Concepts 16)
- field (Concepts 24)
- file (Concepts 10)
- firewall (Concepts 20)
- firmware(Concepts 8)
- firmware update (Concepts 8)
- flash drive (Concepts 10)
- flash memory (Concepts 10)
- flash memory cards (Concepts 10)
- flat panel monitor (Concepts 14)
- font (Concepts 24)
- gigabyte (GB) (Concepts 17)
- gigahertz (GHz) (Concepts 7)
- graphical user interface (GUI) (Concepts 22)
- graphics card (Concepts 14)
- graphics processor (Concepts 14)
- graphics software (Concepts 24)
- handheld computers (Concepts 4)
- hard copy (Concepts 14)
- hard disk (Concepts 10)
- hardware (Concepts 6)
- HDMI (high-definition multimedia interface) (Concepts 16)
- headphones (Concepts 14)
- HTML (Concepts 24)
- information management software (Concepts 24)
- infrared technology (Concepts 18)
- inkjet printers (Concepts 14)
- input (Concepts 6)
- input and output (I/O) (Concepts 22)
- input device (Concepts 6)
- interface card (Concepts 16)
- Internet (Concepts 18)
- keyboard (Concepts 12)
- kilobyte (KB or K) (Concepts 17)
- laptop computer (Concepts 4)

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- laser printers (Concepts 14)
- LCD (liquid crystal display) (Concepts 14)
- LED (light emitting diode) (Concepts 14)
- LED printer (Concepts 14)
- local area network (LAN) (Concepts 16)
- logging in (Concepts 21)
- magnetic storage devices (Concepts 10)
- mainframe computers (Concepts 4)
- malware (Concepts 20)
- megabyte (MB) (Concepts 17)
- megahertz (MHz) (Concepts 7)
- memory (Concepts 8)
- memory capacity (Concepts 8)
- microphone (Concepts 12)
- microprocessor (Concepts 6)
- modem (Concepts 16)
- monitor (Concepts 14)
- motherboard (Concepts 6)
- mouse (Concepts 12)
- MP3 players (Concepts 4)
- Multifunction printer (MFP) (Concepts 15)
- multimedia authoring software (Concepts 24)
- netbooks (Concepts 4)
- network interface card (NIC) (Concepts 18)
- network software (Concepts 18)
- node (Concepts 18)
- nonvolatile memory (Concepts 8)
- notebook computer (Concepts 4)
- operating environments (Concepts 22)
- operating system (Concepts 22)
- optical character recognition (OCR) (Concepts 12)
- optical storage devices (Concepts 10)
- output (Concepts 6)
- output devices (Concepts 6)
- pages per minute (ppm) (Concepts 14)
- peer-to-peer network (Concepts 18)
- peripheral devices (Concepts 6)
- permanent memory (Concepts 8)
- personal area network (PAN) (Concepts 18)
- personal computers (Concepts 4)
- pharming (Concepts 20)
- phishing (Concepts 20)
- photo editing software (Concepts 24)
- pixels (Concepts 14)
- pointer (Concepts 12)
- pointing device (Concepts 12)
- presentation software (Concepts 24)
- printer (Concepts 14)
- processing (Concepts 6)
- processor (Concepts 6)
- programming languages (Concepts 22)
- programs (Concepts 6)
- protocols (Concepts 16)
- quad-core processor (Concepts 7)
- RAM cache (Concepts 8)
- random access memory (RAM) (Concepts 8)
- read-only memory (ROM) (Concepts 8)
- receiver (Concepts 16)
- record (Concepts 24)
- router (Concepts 18)
- scanner (Concepts 12)
- screen (Concepts 14)
- screen size (Concepts 14)
- scroll wheel (Concepts 12)
- search engine (Concepts 2)
- security (Concepts 20)
- semipermanent memory (Concepts 8)
- sender (Concepts 16)
- servers (Concepts 18)
- single-core processor (Concepts 7)
- slots (Concept 16)
- smartphones (Concepts 4)
- software (Concepts 6)
- solid-state drive (SSD) (Concepts 10)
- solid state storage (Concepts 10)
- speakers (Concepts 14)
- specifications (Concepts 6)
- spell checking (Concepts 24)
- spoofed (Concepts 20)
- spreadsheet software (Concepts 24)
- spyware (Concepts 20)
- stand-alone computer (Concepts 18)
- strong password (Concepts 21)
- subnotebook computers (Concepts 4)

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- supercomputers (Concepts 4)
- synchronous dynamic random access memory (SDRAM) (Concepts 8)
- system resource (Concepts 22)
- system software (Concepts 22)
- Tablet (Concepts 4)
- telecommunications (Concepts 19)
- temporary memory (Concepts 8)
- terabyte (TB) (Concepts 17)
- toner (Concepts 14)
- touch pad (Concepts 12)
- touch screen (Concepts 12)
- trackball (Concepts 12)
- trackpad (Concepts 12)
- ultraportable computers (Concepts 4)
- URL (Concepts 20)
- USB (Universal Serial Bus) port (Concepts 16)
- USB connector (Concepts 16)
- USB drive (Concepts 10)
- utility software (Concepts 22)
- VGA (video graphics array) (Concepts 16)
- video card (Concepts 14)
- video display adapter (Concepts 14)
- video editing software (Concepts 24)
- videoconferencing (Concepts 2)
- virtual memory (Concepts 8)
- virus protection software (Concepts 20)
- viruses (Concepts 20)
- voice recognition software (Concepts 12)
- volatile memory (Concepts 8)
- Web site creation and management software (Concepts 24)
- wide area network (WAN) (Concepts 18)
- Wi-Fi (short for wireless fidelity) (Concepts 18)
- wireless local area network (WLAN) (Concepts 18)
- word size (Concepts 7)
- worksheet (Concepts 24)
- workstation (Concepts 18)

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