

Microsoft Office 2007

Essential Introduction to Computers

and How to Purchase a Personal Computer



Objectives

- Define the term computer and discuss the four basic computer operations: input, processing, output, and storage
- Define data and information
- Explain the principal components of the computer and their use
- Describe the use of magnetic disks, USB flash drives, and other storage media
- Discuss computer software and explain the difference between system software and application software

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Objectives

- Identify several types of personal computer application software
- Discuss computer communications channels and equipment and the Internet and World Wide Web
- Define e-commerce
- Explain how to purchase a personal computer

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What is a Computer?

- An electronic device, operating under the control of instructions stored in its own memory, that can:
 - Accept data (input)
 - Process the data according to specified rules (process)
 - Produce results (output)
 - Store the results for future use (storage)

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What is a Computer?



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What Does a Computer Do?

- Four basic operations comprise the information processing cycle



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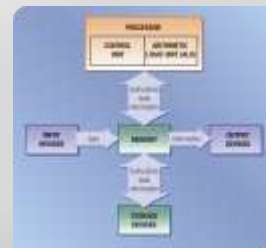
What are the Components of a Computer?

- The six primary components of a computer are input devices, the processor (control unit and arithmetic/logic unit), memory, output devices, storage devices, and communications devices
- The processor, memory, and storage devices are housed in a box-like case called the system unit

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What are the Components of a Computer?



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Input Devices

- An input device is any hardware component that allows you to enter data, programs, commands, and user responses into a computer
 - A keyboard is an input device that contains keys you press to enter data into the computer
 - A stylus is a small metal or plastic device that looks like a ballpoint pen, but uses pressure instead of ink to write, draw, or make selections
 - Smart phones often include a digital camera so users can send pictures and videos to others

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Input Devices



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Input Devices

- A mouse is a pointing device that fits comfortably under the palm of your hand
 - Pointer or mouse pointer
 - Most notebook computers come with a touchpad



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System Unit

- The system unit is a case that contains electronic components of the computer used to process data
 - The processor (CPU) interprets and carries out the basic instructions that operate a computer
 - Arithmetic/logic unit
 - Memory (RAM) consists of electronic components that temporarily stores instructions waiting to be executed by the processor, data needed by those instructions, and the results of processed data

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System Unit



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Output Devices

- Output devices make the information resulting from processing available for use
 - An impact printer prints by striking an inked ribbon against the paper
 - Nonimpact printers form characters by means other than striking a ribbon against paper
 - Inkjet
 - Photo printers
 - Laser

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Output Devices



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Display Devices

- A display device is an output device that visually conveys text, graphics, and video information
 - Monitor
 - Flat panel monitor
 - LCD
 - CRT



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Display Devices



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Storage Devices

- A storage device is used to store instructions, data, and information when they are not being used in memory
 - Magnetic disks use magnetic particles to store items on a disk's surface
 - Formatting
 - Track
 - Sectors
 - Portable storage medium



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Storage Devices

- A hard disk is a storage device that contains one or more inflexible, circular platters that magnetically store data, instructions, and information
 - Head crash
 - Backup



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Storage Devices

- A floppy disk is an inexpensive portable storage medium



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Storage Devices

- An optical disc is a portable storage medium that consists of a flat, round, portable disc made of metal, plastic, and lacquer that is written and read by a laser



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Storage Devices

- Tape is a magnetically coated ribbon of plastic housed in a tape cartridge
 - Tape drive



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Storage Devices

- Miniature mobile storage media are rewriteable media usually in the form of a flash memory card, USB flash drive, or a smart card



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Storage Devices

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Storage Devices

- A smart card stores data in a thin microprocessor embedded in the card



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Communications Devices

- A communications device is a hardware component that enables a computer to send and receive data, instructions, and information to and from one or more computers
 - Transmission media

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Computer Software

- System software consists of programs to control the operations of computer equipment
 - Operating system
 - Microsoft Windows Vista
 - Microsoft Windows XP
 - Apple Mac OS X
 - Linux
 - Booting
 - Graphical user interface (GUI)
 - Icon



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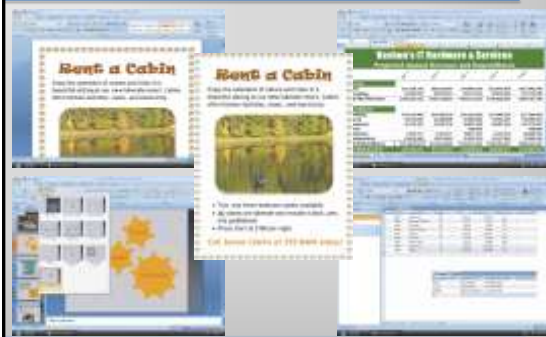
Computer Software

- Application software consists of programs designed to make users more productive and/or assist them with personal tasks
 - Word processing
 - Spreadsheet
 - Database
 - Presentation graphics

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Computer Software



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Networks and the Internet

- A network is a collection of computers and devices connected together, often wirelessly, via communications devices and transmission media

- Local area network
- Wide area network



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Networks and the Internet

- The world's largest network is the Internet, which is a worldwide collection of networks that connects millions of businesses, government agencies, educational institutions, and individuals
 - Internet service provider (ISP)
 - Online service provider (OSP)
 - Wireless Internet service provider (WISP)

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Networks and the Internet

- The World Wide Web contains billions of documents called Web pages
 - Web page
 - Web site
 - Web browser
 - Uniform Resource Locator (URL)
 - Hypertext transfer protocol



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Networks and the Internet

- When you conduct business activities online, you are participating in electronic commerce, also known as e-commerce
 - Business to consumer (B2C)
 - Consumer to consumer (C2C)
 - Business to business (B2B)

How to Purchase a Personal Computer

- Do you want a desktop computer or mobile computer?
- For what purposes will you use the computer?
- Should the computer be compatible with the computers at school or work?

How to Purchase a Desktop Computer

- Determine the specific software you want to use on your computer
- Know the System Requirements of the Operating System
- Look for bundled software
- Avoid buying the least powerful computer available
- Consider upgrades to the mouse, keyboard, monitor, printer, microphone, and speakers

How to Purchase a Desktop Computer

- Determine whether you want to use telephone lines or broadband (cable or DSL) to access the Internet
- If you are using a dial-up or wireless connection to connect to the Internet, then select an ISP or OSP
- Use a worksheet to compare computers, services, and other considerations
- If you are buying a new computer, you have several purchasing options: buying from your school bookstore, a local computer dealer, a local large retail store, or ordering by mail via telephone or the Web
- If you are buying a used computer, stay with name brands such as Dell, Gateway, Hewlett-Packard, and Apple

How to Purchase a Desktop Computer

- If you have a computer and are upgrading to a new one, then consider selling or trading in the old one
- Be aware of hidden costs
- Consider more than just price
- Avoid restocking fees
- Use a credit card to purchase your new computer
- Consider purchasing an extended warranty or service plan

How to Purchase a Notebook Computer

- Purchase a notebook computer with a sufficiently large active-matrix screen
- Experiment with different keyboards and pointing devices
- Make sure the notebook computer you purchase has a CD and/or DVD drive
- If necessary, upgrade the processor, memory, and disk storage at the time of purchase

How to Purchase a Notebook Computer

- The availability of built-in ports and a port extender on a notebook computer is important
- If you plan to use your notebook computer for note-taking at school or in meetings, consider a notebook computer that converts to a Tablet PC
- Purchase a notebook computer with a built-in wireless network connection
- If you are going to use your notebook computer for long periods without access to an electrical outlet, purchase a second battery

How to Purchase a Notebook Computer

- Purchase a well-padded and well-designed carrying case
- If you travel overseas, obtain a set of electrical and telephone adapters
- If you plan to connect your notebook computer to a video projector, make sure the notebook computer is compatible with the video projector
- For improved security, consider a fingerprint scanner

How to Purchase a Tablet PC

- Make sure the Tablet PC fits your mobile computing needs
- Decide whether you want a convertible or pure Tablet PC
- Be sure the weight and dimensions are conducive to portability
- Port availability, battery life, and durability are even more important with a Tablet PC than they are with a notebook computer

How to Purchase a Tablet PC

- Experiment with different models of the Tablet PC to find the digital pen that works best for you
- Check out the comfort level of handwriting in different positions
- Make sure the LCD display device has a resolution high enough to take advantage of Microsoft's ClearType technologies
- Test the built-in Tablet PC microphone and speakers

How to Purchase a Tablet PC

- Consider a Tablet PC with a built-in PC video camera
- Review the docking capabilities of the Tablet PC
- Wireless access to the Internet and your e-mail is essential with a Tablet PC
- Review available accessories to purchase with your Tablet PC

How to Purchase a Personal Mobile Device

- Determine the programs you plan to run on your device
- Consider how much you want to pay
- Determine whether you need wireless access to the Internet and e-mail or mobile telephone capabilities with your device
- For wireless devices, determine how and where you will use the service

How to Purchase a Personal Mobile Device

- Make sure your device has enough memory and storage
- Practice with the touch screen, handwriting recognition, and built-in keyboard before deciding on a model
- Decide whether you want a color display
- Compare battery life

How to Purchase a Personal Mobile Device

- Seriously consider the importance of ergonomics
- Check out the accessories
- Decide whether you want additional functionality
- Determine whether synchronization of data with other devices or personal computers is important

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Complete

