

CSCA0102

IT & Business

Applications

Foundation in Business Information Technology
School of Engineering & Computing Sciences
FTMS College Global

Chapter 1

Basic Computer Concepts



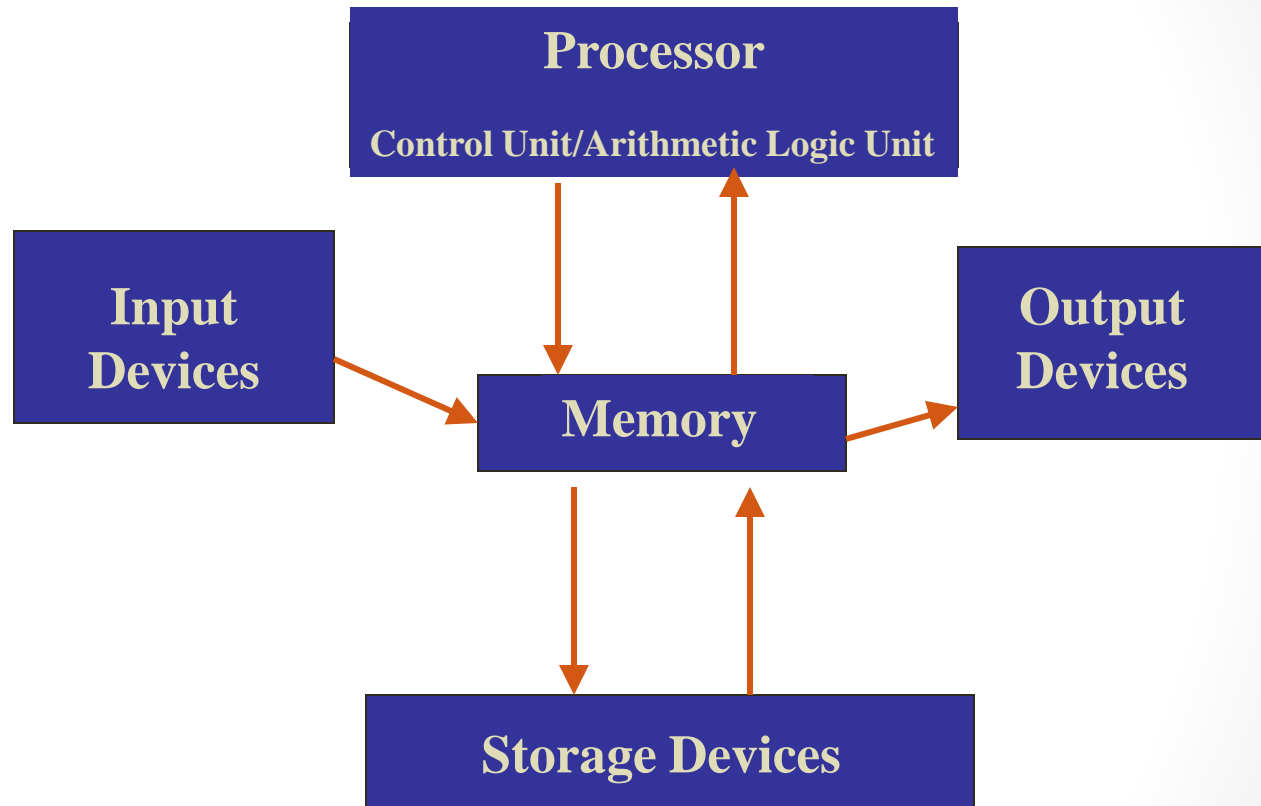
What is a Computer?

An electronic device, operating under the control of instructions stored in its own memory unit, that can accept data (**input**), manipulate the data according to specified rules (**process**), produce information (**output**) from the processing, and store the results for future use.



What does a computer do?

- Input
- Process
- Output
- Storage



Information Processing Cycle

What does a computer do?

Input

- It is the process of capturing or acquiring the information, or it is the process of accepting data or information, by using input the computer can do any process.
- Information or data that is entered into a computer or computer device using **input** devices.

What does a computer do?

Input

Types of Computer Input

- **Data**
 - the raw **facts** given to the computer.
- **Programs**
 - the sets of **instructions** that direct the computer.
- **Commands**
 - special codes or **key words** that the user inputs to perform a task.
- **User response**
 - the user's answer to the computer's question.

What does a computer do?

Processing

- It is the transformation process to convert the input into output.
- A **process** is an instance of running a program.
- It cause the computer to follow instructions from the Memory.
- Perform by **Central Processing Unit (CPU)**.

What does a computer do?

Output

- It is the result, which comes from the transformation process or it is the outcome of the process.
- Anything that comes out of a computer.

What does a computer do?

Output

Types of Computer Output

- **Hard copy**
 - Printed on paper or other permanent media.
- **Soft copy**
 - A **soft copy** is the unprinted digital document file.
 - Displayed on screen or by other non-permanent means.
 - It can be transported from one computer to another.

Input Devices

- Any hardware component that allows you to enter data, programs, commands, and user responses into a computer

- Input Device Examples

- Keyboard
- Mouse



Output Devices

- Output devices make the information resulting from processing available for use
- Output Device Examples
 - Printers
 - Impact
 - Nonimpact
 - Photo
 - Display Devices
 - CRT
 - LCD



Storage Devices

- **Removable**

- Floppy disk, or diskette
- Compact Disc CD-R, CD-RW, CD-ROM
- DVDs – DVD-ROM, DVD-R, DVD-RW, DVD-RAM
- Zip disk
- Flash disk/USB drive
- Tape

- **Non-Removable**

- Hard disk

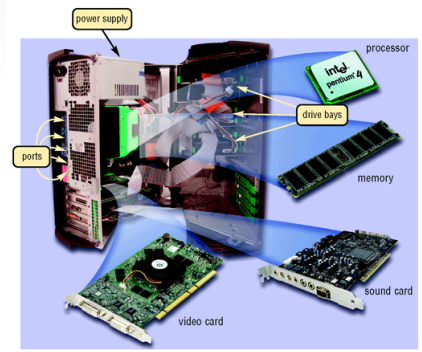


FIGURE 17 On a personal computer, you insert and remove

(a) Floppy disk drive installed inside a desktop computer



System Unit



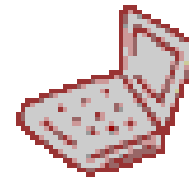
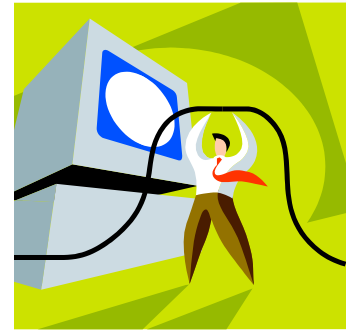
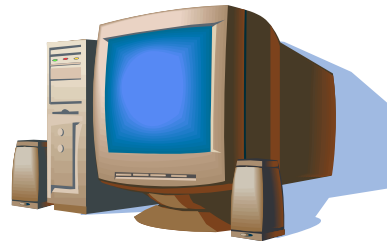
- The motherboard, or system board, is the main circuit board of the system unit
- The processor, also called the central processing unit (CPU), interprets and carries out the basic instructions that operate a computer
- The control unit interprets the instructions
- The arithmetic/logic unit (ALU) performs the logical and arithmetic processes
- Memory, also called random access memory, or RAM, consists of electronic components that store data, instructions, and information, as needed by the processor

Communications Devices

- A **communications device** is a hardware component that enables a computer to send (transmit) and receive data, instructions, and information to and from one or more computers
- Communications occur over transmission media, such as telephone lines, cables, cellular radio networks, and satellites

Types of Computers

- **Supercomputers**
- **Mainframes**
- **Microcomputers**
 - Desktops
 - Laptops (Notebooks)
 - Handhelds



Types of Computers

Supercomputers

- The fastest type of computer.
- Very expensive and are employed for specialized applications that require immense amounts of mathematical calculations.
- An extremely fast computer that can perform hundreds of millions of instructions per second.

Types of Computers

Mainframes

- A very large and expensive computer capable of supporting hundreds, or even thousands, of users simultaneously.
- In some ways, mainframes are more powerful than supercomputers because they support more simultaneous programs.

Types of Computers

Microcomputers

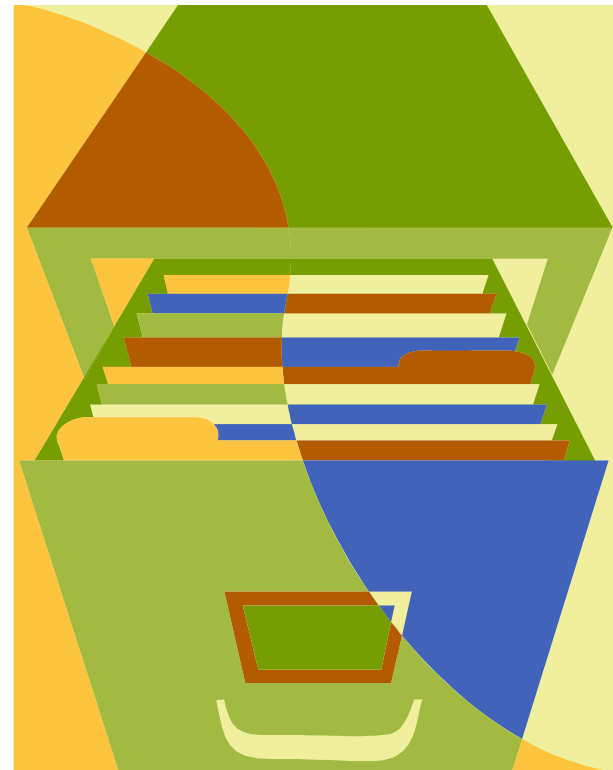
- A **microcomputer** is a small, relatively inexpensive computer with a microprocessor as its central processing unit (CPU)
- A small, single-user computer based on one microprocessor.
- Microcomputers are designed to be used by individuals.

COMPUTER SOFTWARE

- **System software** consists of programs to control the operations of computer equipment
- Instructions in the operating system tell the computer how to perform the functions of loading, storing, and executing an application program and how to transfer data
- When a computer is turned on, the operating system is loaded into the computer's memory from auxiliary storage, a process called booting
- Most computers use an operating system that has a graphical user interface (GUI)

Operating System Tasks

- Operations Management
 - Load, store and execute programs
 - Transfer data
- File Management
 - Files
 - Folder
- System Maintenance
 - Defragment/Check Disk
 - Virus Check
- System Monitoring

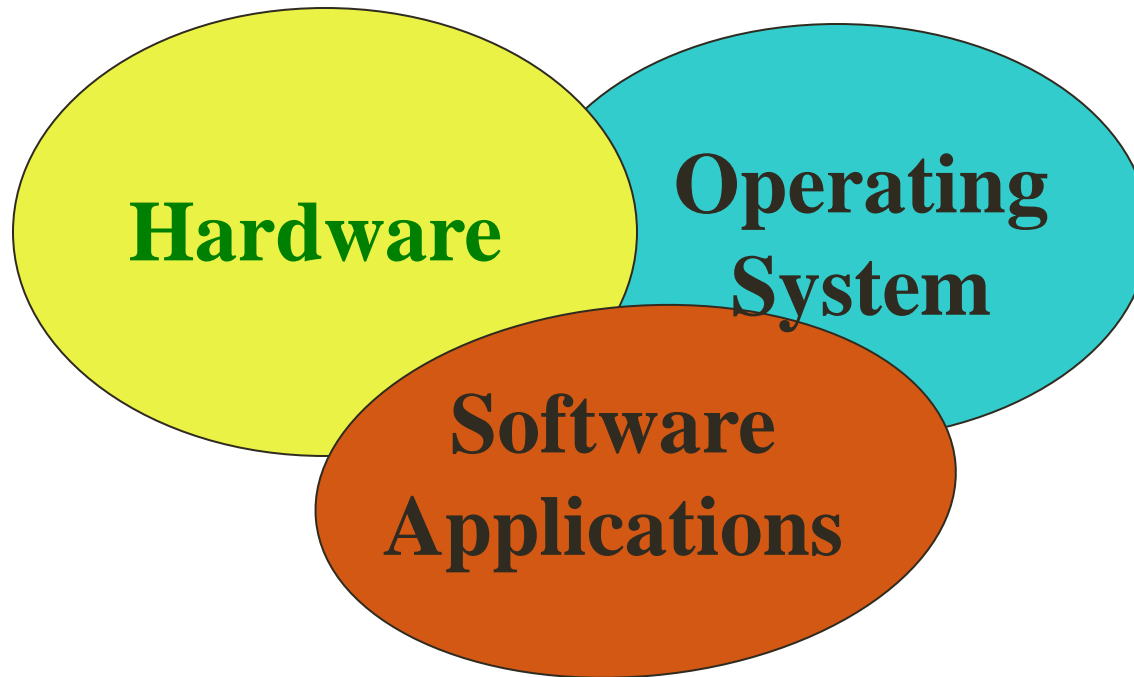


Application Software

- Word Processing
- Spreadsheet
- Presentation Graphics
- Database
- Contact Management
- Utility Software – anti-virus, data backup, and file compression



Computer Hardware & Software



NETWORKS

- A network is a collection of computers and devices connected together so users can share data and resources
- A local area network (LAN) connects computers in a limited geographic area
- A wide area network (WAN) covers a large geographical area

Networks and the Internet

- The world's largest network is the Internet
- Most users connect to the Internet in one of two ways:
 - Internet service provider
 - Online service provider



FIGURE 36 A wealth of information is available on the Web.

The World Wide Web

- One of the more popular segments of the Internet is the World Wide Web, also called the Web.
- A Web page is a document that contains text, graphics, sound, and/or video and has built-in connections, or hyperlinks to other Web documents
- A Web site is a related collection of Web pages
- You access and view Web pages using a software program called a Web browser
- A Web page has a unique address, called a Uniform Resource Locator (URL)
- A hyperlink is a virtual connection to another place on the Web

More Internet Terms

- **Cookies** – a text file created by a Web server and your Web browser, that sits on your hard drive
- **Search engine** – a Web site containing a database of web pages and their content
- **Electronic commerce** – conducting business online, such as shopping or investing.
- **Portal** -- a launching point for browsing online; one of the most well-known is Yahoo!, where you can search the Web, shop, chat, check e-mail, build a Web site, and view news articles.

Web Browsers

- **Internet Explorer** – built into Windows
- **Netscape** – the oldest browser; an all-round communications package for the Internet; free at <http://www.netscape.com>
- **Opera** – free version available at <http://www.opera.com>

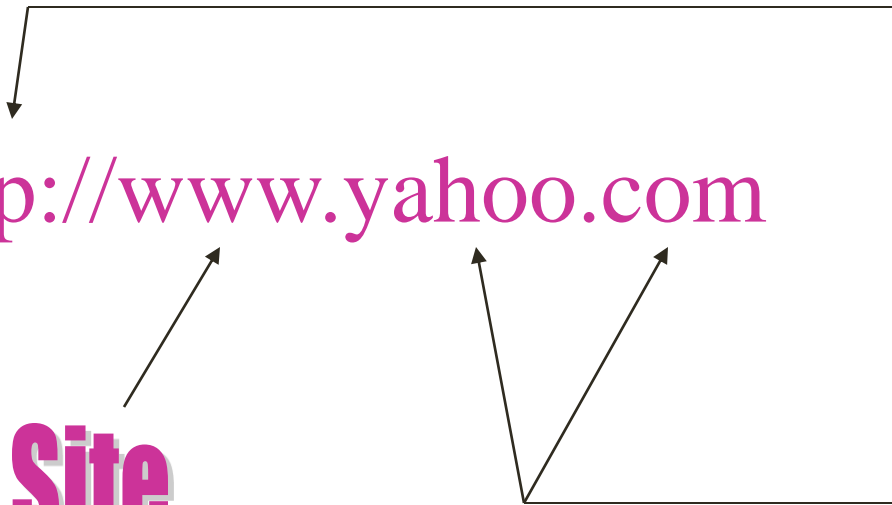
Uniform Resource Locator (URL)

Protocol

<http://www.yahoo.com>

Site

Domain



COMMON APPLICATIONS

- E-mail--Send messages to other connected users
- Shop for goods and services
- Meet and converse with people around the world
 - Instant Messaging, such as ICQ, Windows (MSN) Messenger, and AOL Instant Messenger
 - Web browser plug-ins, such as Macromedia Flash and Shockwave
- Access sources of entertainment and leisure, such as online games, magazines, and vacation planning guides
- Access information such as news, maps, airline schedules, and stock market data

Electronic Commerce

- When you conduct business activities online, you are participating in **electronic commerce**, also known as e-commerce
- **Business to consumer (B2C)** involves the sale of goods to the general public
- **Consumer to consumer (C2C)** involves one consumer selling directly to another
- **Business to business (B2B)** provides goods and services to other businesses