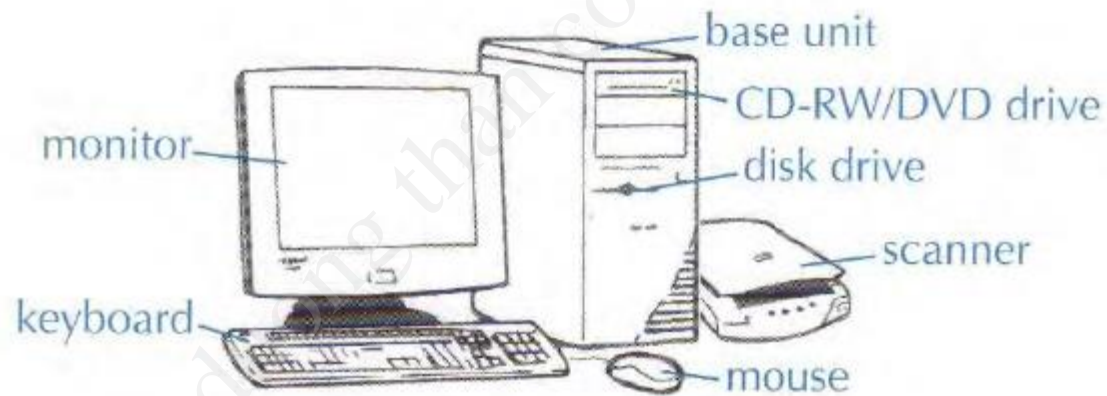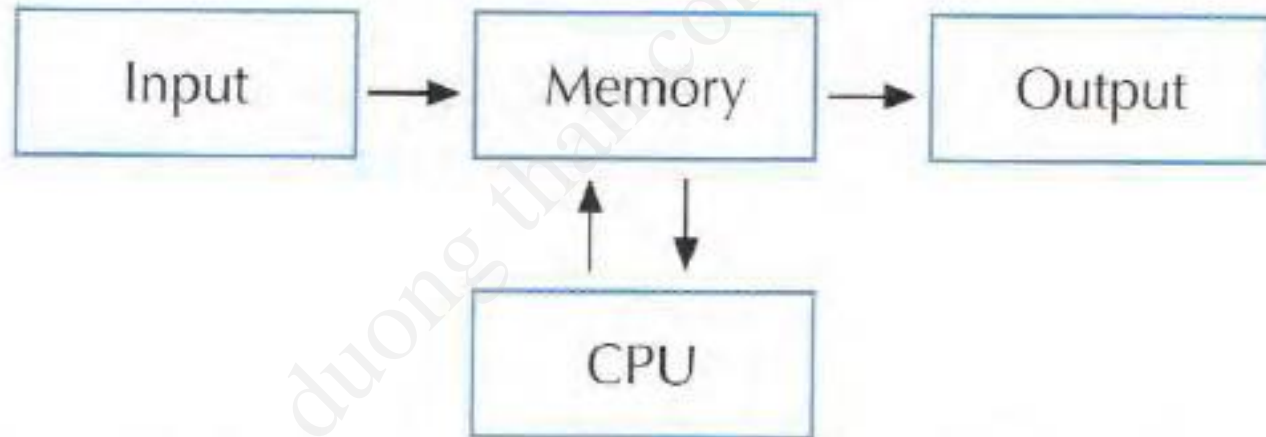# Introduction

Ho Dac Hung

Desktop computing

Desktop computing

Operating Systems

- Operating system software is run automatically when the computer is turned on and is used to control processing and peripherals, run applications software, and control input, output.

Enviroment

- Enviroment refers to a computer's hardware and software confirguration.

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Programming Languages

- A programming language is a set of words, codes, and symbols that allow a programmer to give instructions to the computer.

Networks

- A network is a combination of hardware and software that allow computers to exchange data and share softwares, devices.

Number Systems

- The electrical circuits on an IC have one of two states, off or on. Therefore, the binary number system (base 2) was adopted for use in computers.

Storing Data in Memory

- Computer memory is measured in bytes.
- Data stored in memory is reffered by an address. An address is an unique binary representation of a location in memory.

File

- A file is related data stored on a persistent media. A file can be an application or the product of an application.

Storage Devices

- Storage devices use a persistent media to maintain files.

Why Program in Java?

- Java in an object-oriented programming language. Object-oriented programming (OOP) evolved out of the need to develop complex program in a systematic, modular approach.

- Java is more than just a programming language, it is a platform.

Object, Class, and Packages

- Object-oriented program development involves selecting objects to perform the tasks outlines in a program specification.

- An object consists of related data and the instruction for performing actions on that data.

Object, Class, and Packages

- The design for an object is called a class. A class defines the type of data and actions that will be associated with an object of that class, but not the actual data for an individual object. Classes are required to create objects.

Object, Class, and Packages

Class

DVD class
   title
   genre
   year
   onLoan
   LoanToFriend()

Objects

Shrek
comedy
2001
onLoan to Elaine

Spider-Man 2
action
2004

Miracle
drama
2004

Freaky Friday
comedy
2003

Object, Class, and Packages

- A package, sometimes called a library, is a group of related classes

A Java Application

- A java application is a package with at least one class that contains a main() method.

- A program consists of a set of instructions called statements. A semicolon required to indicate the end of a statement. Related statements are enclosed by curly braces to begin and end the instructions.

- A method is a named set of statements that perform a single, well-defined task. The main() method is places in the controlling class. Its statements are automatically run when the program is executed.

Executing a Java Application

- Java code types a programmer is called source code. For source code to execut, or run, it must be translated to code the computer understands in a process called compiling.

- Compiled Java source code is called bytecode, Executing a Java application means that its bytecode is interpreted with the Java Virtual Machine.

Displaying Output

- An output stream sends data to an output device. To process data for the output stream, Java provides the System class with methods for displaying output.

- For displaying data to the standard output stream, which is typically the computer screen, use System.out, out contains print() and println() methods.

Formatting Output

- The format() methods can be used in place of print() or println() methods to control the way output is displayed. The format() method arguments include a format string and an argument list. The format string contains specifiers that indicate how corresponding strings in the argument list should be displayed.

Algorithm Design

- An algorithm is a set of steps that outline how to solve a problem.

Algorithm Design

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