**Computer Architecture**

**Minicomputer**

[smaller than a mainframe, powerful, multi-user, multi-tasking computer]

**PDA**

[personal digital assistant, has functions such as task lists, diary, address book]

**Notebook**

[size of a sheet of notebook paper]

**Mainframe**

[very powerful multi-user and multi-tasking computer]

**1.Types of computer of varying size and power**

**Supercomputer**

[the most powerful type of mainframe]

v

Modem

Communication devices

**5.CPU (central processing unit)**

[the combination of the processor and memory]

Hard disk

CD-ROM

Plotter

Storage devices

[used to store the programs and data are not being used]

Printer

Monitor

Mouse

Scanner

Keyboard

Output devices

Input devices

**6.Peripherals**

[connected to CPU]

**3.The processor**

[the most important part. It processes the data and controls the computer]

**ROM (read only memory)**

[holds the program instructions and settings required to start up the computer]

**RAM (random access memory)**

[holds the program instructions and the data that is being used by the processor]

**4.Memory**

**2.Parts of computer**

**Personal computer**

[single user computer]

**Workstation**

[most powerful desktop, used for graphic design, etc.]

**Pen-based**

[main input device is an electronic pen]

**Laptop**

[large portable]

**Desktop computer**

[suitable size for sitting on an office desk]

**Portable**

[can be carried around, can operate with batteries]

**Handheld**

[can be held in one held]

**Peripherals**

**Operating systems**

Remains in memory while the computer in use

Load other parts of the OS into memory when they are needed

Remains in memory all the time that the computer is operating

Stay in memory while they are being used

**Non-resident program**

**Resident program**

**Supervisor program**

**1.Programs**

Windows

PenPoint

OS/2

MacOS

Allows the user to use a mouse to click on icons

4.Some OS have a

**Graphical User Interface**

PowerOpen

Ultrix

Solaris

AIX

A/UX

Venix

Xenix

HP-UX

Linux

Minix

3.Unix

Using command prompt for operating with system

**2.Command driven OS**

**User**

**Applications programs**

**Computer hardware**

Provides

**Interface**

**Operating system**

[the set of computer programs that allow the user to perform basic tasks like copying, moving, saving and printing files]

**Applications programs**

This gives the user

**1.Applications programs**

[programs that allow the user to do various types of work on computer]

Manage email systems

Deal with viruses

More flexibility and saves them having to install and maintain programs

Upgrade

(install newer versions of programs)

1)Provides the software

2)Manages the hardware

3)Provides storage space, security controls and the physical links

**3.Application service provider**

[rents applications to users]

**Software**

[word used to refer to programs and data]

You can use search criteria, button icons for searching information about patients

**2.The Patient Browser program**

[type of database for sorting and searching patient records]

Accounts

Presentation programs

Developer tools

Website editor

Email

Games

Graphics

Payroll

Office programs

Databases

Wordprocessors

Spreadsheets

**Multimedia**

Data transfer rate of a DVD is faster than that of a CD-ROM

As music is being played, it can be displayed a monitor screen as a musical score

MIDI systems encoded a sound in the form of 8-bit bytes

Capacity is measured in gigabytes

**3.DVD-ROM**

[development of CD-ROM; optical storage media that provides storage space for multimedia files]

**2.MIDI**

[standart way of connecting musical instruments, synthesizers and computers]

**4.MPEG**

[method of compressing and decompressing video signals]

Often include a ripper, that lets the user rip a song from a CD and convert to WAV

**MP3 Player**

[special program for listen audio files, make playlists and check info about audio file

Can store a minute of sound per megabyte

Files have extra code added, called tags, that give the user info about the file

More suitable for transferring across the Internet

Created by sampling sound and storing a code number to represent each sound sample

**Measure**

Size of an audio file – megabytes, frequency of a sound - kilohertz

**The key difference –** MP3 files are much smaller than WAV

**MP3**

**[**standart way of storing compressed, digital audio files]

**WAV**

**1.Digital audio**

Needs 11 or 12 megabytes to hold the amount like MP3

**Multimedia**

[the term used to refer to a combination of text, graphics, animation, sound and video]

**Software engineering**

The nature of the problem

What hardware already exists

Parallel implementation

Phased implementation

Java, Perl

[have a number of specialized uses including adding features to Internet connections]

Direct implementation

Pilot implementation

**4.Converting to new computer systems can be done in different ways**

HTML and XML

[markup

languages]

FORTRAN

[for solving engineering problems]

C++

[for writing systems programs]

2.Each language is designed for use in solving particular types of problems

iterations

Conditional instructions

1.Use different structures for sequencing program instructions

**3.Programming languages**

5.Testing and maintaining

4.Testing and debugging

3.coding

2.designing

1.clarifying

**2.Program producing stages**

Output from system

To what extent any existing systems are computerised

What systems already exist

Who will be using the system and parts of system

Need to establish factors after talking with potential user about system problems

**System analyst**

[person who designs or modifies information systems to meet users’ requirements]

**Programmers**

[people who write programs on computer languages]

**1.people**

**Software engineering** [the discipline of designing high quality software solutions]

**Types of programming languages**

Simplest improvement over machine languages

First to use alphanumeric symbols

difficult to understand and use, so they are rarely used directly by programmers

Understand only binary notation

Use the normal grammar of the spoken languages to create programs

**Natural languages**

[fifth generation languages]

Application generators

Object-oriented languages

Designed to instruct the computer to retrieve and manipulate DB information

Used specifically within the realm of databases

**Query languages**

[fourth generation languages]

Authoring systems

Were created to solve specific user and programming problems

**Problem-Oriented languages**

[fourth generation languages]

Some of the most frequently – BASIC, PASCAL

**Programming languages**

[are classified as first-,second-,third-,fourth- or fifth- generation languages]

Are called procedural languages because they allow the programmer to create procedures

**Procedural languages**

[third generation languages (also called high-level languages)]

The most widely used programming languages

Employ more human-like words

Used, when programmer need to deal with the computer directly

**Assembly languages**

[second generation languages]

**Machine languages**

[first generation languages]