

Softwares

P1 Ch # 4

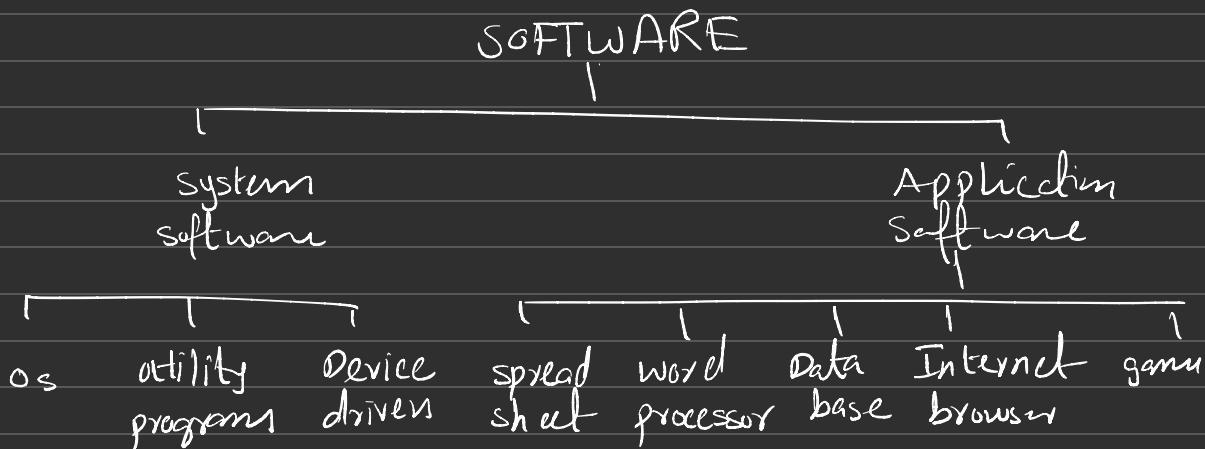
Software: software refers to a collection of instructions that enable computer to perform a specific task.

e.g. For i in range 1:10
 OUTPUT i
 i = i+1
 → software

- Types of software
- ① system software
 - ② Application software.

System Software: System includes basic OS device drivers and other computer essential program e.g Kali, Ubuntu.

Applications: refers to programs designed to perform specific or cater to particular user needs e.g. google, instagram, facebook.



Features of System software

- ① collection application to monitor computer hardware
- ② Enable trouble free hardware/software operations.
- ③ Used to carry out different computer programs.

Features of application softwares

- ① permits the user to use computer resources.
- ② could be a single app or a group of apps
- ③ software can be used whenever and however the user wants

Example of Application software

- ① word processor
- ② photoshop
- ③ Facebook

Example of system software

- ① OS
- ② Device Drivers
- ③ Anti Virus.

Operating Systems: It is a software that runs on a computer on background monitoring all the task.

- management of error
- user interface
- handling security
- The program loading and execution
- input/output operations.

Utility : helper programs

- ① virus checkers
- ② defragmentation software
- ③ screen savers
- ④ file compression

→ Anti Viruses: This software is designed to detect and remove viruses or malicious softwares.

Characteristics

- ① They use heuristic checking
- ② They inspect files or software before they are loaded into computer memory
- ③ → They perform daily/ weekly scans.

Back Up software:

- ① permits creation of backup schedule for files only
- ② performs a backup when a file is modified.

- The most recent is kept on SSD
- A distant copy is kept far away from machine e.g. iCloud.

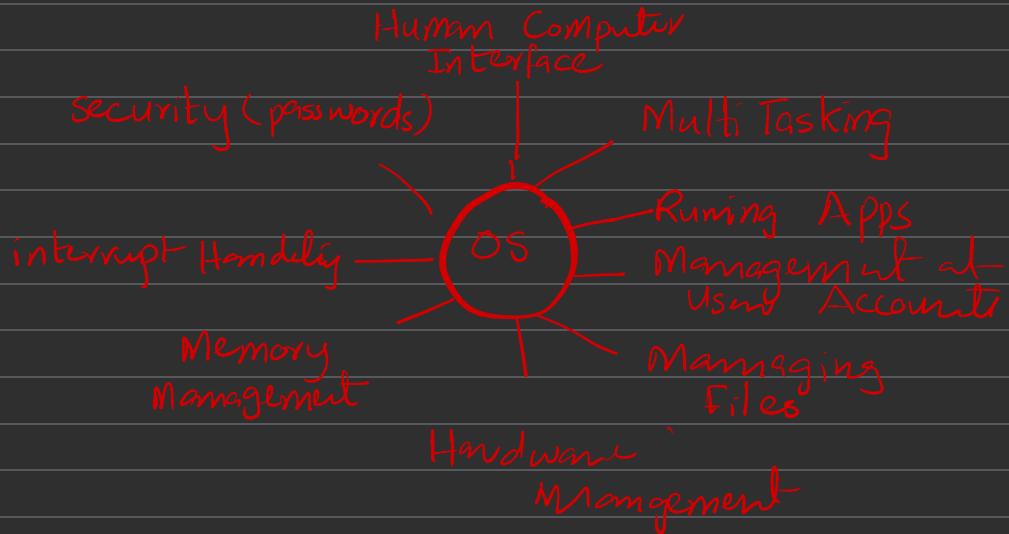
Security Softwares:

- ① Ensures data cannot be used without decryption key.
- ② makes sure no spyware present.
- ③ supervise software updates.

Screen Savers: displays moving and non moving image when the computer is idle for a while.

Device Drivers: Device drivers are programs that interface system and converts data that is comprehendible to peripheral devices.

Uses of OS



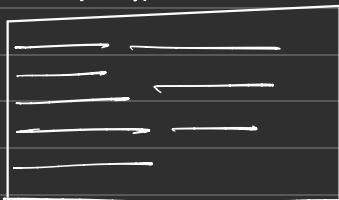
ios → intelligent operating system

Human Computer Interface:

- HCI
- This is basically the GUI graphical User Interface through Human - Computer interaction is made possible

Types of Interface

CLI
command line Interface
Terminal



GUI
Graphical User Interface



CLI

-Advantage

- ① Direct communication between User and Computer
- ② Broad no. of selections
- ③ Changes to computer config. are possible
- ④ Utilize little quantity of computer memory

-Disadvantage

- ① Must memorize variety of commands
- ② Every command must be entered which is time consuming.

GUI

- Advantages

- ① No need to memorize commands
- ② It is more easier to use
- ③ We can use pointing devices

- Disadvantages

- ① limited access to computer
- ② cannot change computer configuration

Memory Management

- This feature of OS allows allocating memory to the task
- After finishing a process it deallocated the memory
- Memory protection

Security Management

- ① Risk Assessment: Identifies if the source is unauthorized / third party.
- ② Access Control: Makes sure no unauthorized person is granted the control of pc.
- ③ Incident Response: If unauthorized access has been granted somehow it identifies and responds.

Multi Tasking: Refers to the ability of a computer to perform multiple tasks simultaneously or in rapid succession.

Management of User Accounts: This involves administering individual accounts that grants individual access to the computer system.

This enables every user to

- ① Alter their screen arrangements
- ② use distinct files.

Running of Applications

This involves the execution of software programs on a computer system or device to perform specific tasks or functions.

- User Launch apps by clicking on the icon
- Running this apps consumes resources.
- Each running app is managed as a separate process.
- Applications can run either in background or in foreground.

Interrupts: Interrupts are signals sent by the hardware or software to the CPU to temporarily stop the current program and serve the interrupt.

Conditions of interrupt

- ① timing signal
- ② Input/Output Event
- ③ A physical issue (hardware issue)
- ④ A software issue

Programming Language

- High Level
- Low level
- Scripting Languages.

High-Level: Designed to be easily understand by human and often resemble natural language e.g C, C++, python, Java.