

Assignment - 1

1) Boot process & stages
powerup / Reset
System startup.

1) BIOS (Basic Input/Output System) executes after powerup / Reset
→ performs some system integrity checks
→ searches for boot loader & executes boot loader

powerup

→ It looks for boot loader in floppy, cd-rom or hard disk

→ BIOS loads & executes MBR loader.

2) MBR (Master Boot Record)

→ MBR boot loader loads & executes boot loader

→ It is located in 1st sector of bootable disk.

→ MBR is less than 512 bytes in size & has 3 comp

3) GRUB (Grand Unified Bootloader or execution kernel)

→ GRUB stands for grand unified bootloader

→ GRUB displays a splash screen, waits for user's command. If user enters any key it loads the default kernel image as specified in the grub configuration file

4) Kernel

→ Mounts the root file system as / in the system
in "root=" in grub.conf

→ kernel executes the [sbin] init program
→ initial stands for initial name diff.

5. init

→ look at the [etc] init tab file to
see the linux system level.

→ follow are the services run level

→ 0 - halt

→ 1 - single user mode

→ 2 - multi-user mode

→ 3 - full multi-user mode

→ 4 - unused

→ 5 - x11

→ 6 - Reboot.

→ init checks the default and kernel may
[etc] init tab and user not to local
all command program

6. Run level program

→ when the linux system is booting
up, you must see some service setting.
Start for eg. it must say & start some
level etc.

→ Depending on your default init level
setting, the system will execute the program

2) Function of operating system

1) Security

→ the operating system will provide
protection to protect user data and system
other techniques
it also prevent anyone who comes
to program & user data.

2) Control over System

→ Monitor overall system health
to help improve performance.
→ They can help improve performance by
providing important information needed to
troubleshoot problem.

3) Job security

→ Operates system keeps track
of time and resources used by users/tasks
& user, this information can be used
to track, measure time & resources
used to & help plan.

4) Error details aids

→ It operates system contains power
to system to detect error-over and
error handling of a computer system.

5) Co-ordination between other I/O users

→ Operates system also co-ordinate and
manage inter-process, communication, error over
other I/O to be received and all the
computer system.

6) Memory management

→ It operates system manages the
primary memory or main-memory
→ It keeps track of primary memory

7) Process management

→ In a multi-programming environment,
there is always the order in which process
have access to the processor.

8) Device Manager:

→ An OS manages device communication
via the remote devices

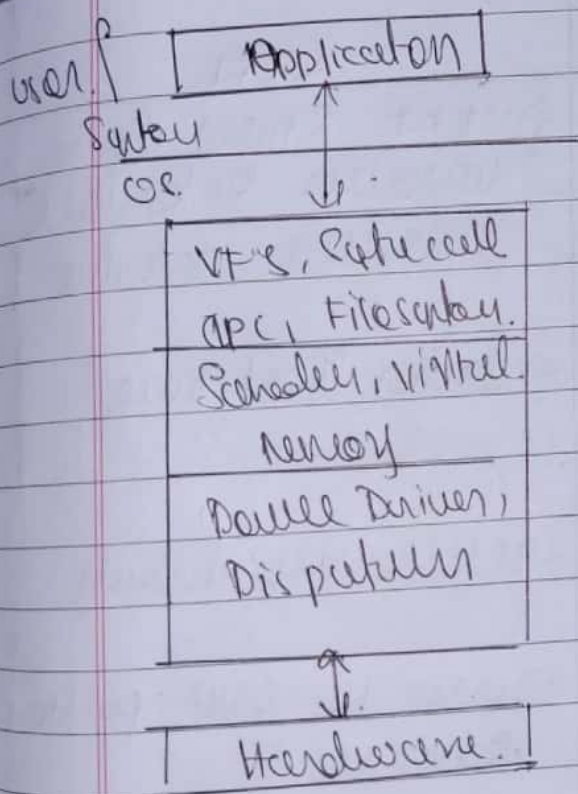
→ keep track of devices connected to
the system

9) File Manager:

→ A file system in operation
directly for effect or easy management
and

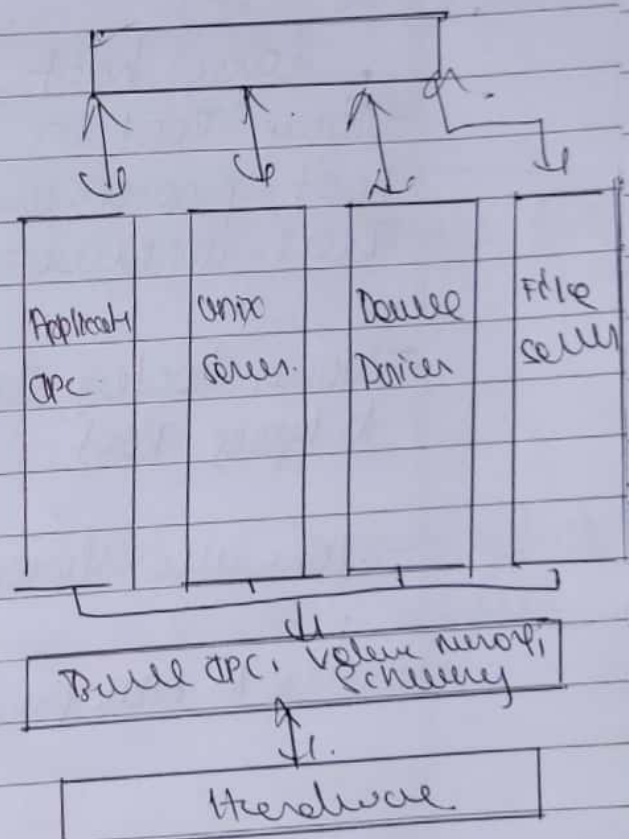
3). with a neat diagram explain the difference
between monolithic & microkernel
=

Monolithic



→ larger in size
→ fast execution
→ hard to extend

Microkernel



→ smaller in size
→ slow execution
→ easy to extend

→ In monolithic kernel, both user space & kernel space are kept in same address space

→ In microkernel, user space & kernel space are kept in separate address space

→ Low code is needed

→ More code is needed

→ e.g. Linux, Solaris, BSD, OpenVMS

→ QNX, Rhapsody, Ultrix, Symbian, Hurd

Difference b/w UEFI & legacy boot

Legacy boot	UEFI
→ Legacy boot in the boot process uses BIOS firmware	→ UEFI starts the universal extensible firmware interface
→ Slower booting compared to legacy boot	→ Faster boot time
→ Low user friendly	→ More user friendly
→ User has MBR partition	→ User has GPT partition scheme
→ User has firmware of the boot process	→ User has UEFI firmware of the boot process

5) Draw on to operating system linux window.
Q mark.

Linux	Windows	Mac OS
→ open source	→ closed source	→ closed source
→ does not have complete right of its own.	→ registry is a central database which is stored all the settings.	→ stores all application settings in a form of plist files.
→ process terminal	→ terminal is command prompt	→ process console or terminal
→ does not work on hardware.	→ not enter hardware interface like windows.	→ has a ability to boot Winhell network interface.

6. commonly on windows as to check disk partition

- =
- Step 1: open command prompt
 - Step 2: use diskpart command

Active: make the selected partition as active
 Add: Add a mirror to a single volume
 Attach: manipulate disk/volume attributes
 Break: Break a mirror list
 Clean: clear information of the disk.
 Delete: Delete an object
 Detail: Detail of an object
 Extend: Extend a volume
 Format: Format drive/part.

T. list he comes to check screen in window
=
→ open command prompt
→ solve msg.
→ menu enter.

P. list he comes to check disk partition in window

= Step 1: open file explorer.

Step 2: right click on "This PC"

Step 3: check "name" then he pop-up name

Step 4: navigate to storage → Disk Management in navigation panel

9. list he comes to start or stop screen in window.

= Step 1: ~~press~~ Windows key + R to open run window

Step 2: type in screen and in the open box

Step 3: screen dial then window will open

Step 4: select the screen to start/stop

Step 5: choose the network option the speaker

Command

#diskpart: screen for disk in a given name
diskpart: list all the disks.

#cd: screen for disk in a given name
cd: list all the disks.

grep: to search for pattern in each file
grep file text

sed: Stream editor for filtering and transforming text

sed ls | unix | linux | file name
script win
linux

awk: while based concatenation of all file
to standard output
awk -r file name

head: extracts the first part of file
head file name.txt

tail: extracts the last part of file
tail file.txt
tail -n 2 file.txt

dd: Manipulating disk partition table
dd device device

iconv: used to convert the contents of file
Symbol as character by Symbol-based
table
P.T. Journal

unrar: is prog used to install, uninstall
or list the tables used to access to
even - decoder in rar files

diff: part or content between two files
or also called "differences"
diff file1 file2
diff | grep "text to search"

#tail: alt pen last 12 lines of section
& tell to. last.