Unit-5

Q7(a) What is memory management. Explain with with Physical & virtual address space

(b) What is Paging & Segmentation.

(c) What is virtual memory management Explain with Page replacement algo.

Q8(a) What is Linux. Give their Feature & Steps for Installation.

(b) Give difference blw Shell & Command

(c) Define file & Directory its structure

Ans 8(a) Shell & Command (Unix Structure)

It have two types

1) Shell
2) Kernel

1) Shell ⇒ It is Called Command Interpreter It work as a medium between user & Kernel Shell give the command to the kernel. It provide Interface blw user

Types of Shell

1) Bourne Shell
2) Korn Shell
3) C Shell
4) Bash Shell

1) Bourne Shell ⇒
It make the Bourn Script It can use by maximum user. It is develop in AT & T Bell Laboratory

2) Korn Shell ⇒ It is developed by Korn scientist. It is more capable & powerful. It is advance shell

3) C Shell ⇒ It is made by C Programming It can use any command. It can repeate any Command

4) Bash Shell ⇒ It is Given by Bourn. It is a linear system. It can use bourn C, Korn Shell Feature. It use by Programming. It is a Public domain Shell. It is develop by Free Software Foundation. It is authorized by IEEE

Characteristics
i) It work blw user & Unix System
ii) It can run background process.
iii) It can select more than one file
iv) It can give output of one command as a input to the other command

(2) Kernel ⇒
⇒ It can manage files using System Call
⇒ It can use with memory management & Process management.
⇒ It can control all process
⇒ It can use command which is given by Shell.
⇒ It work between user & hardware OS

Characteristics of Kernal ⇒
i) Process can be create & delete
ii) Can manage process scheduling & memory management.
iii) Can manage Input output devices.
iv) Can transfer data
v) Can provide security

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Ans 8(c) File & Directory structure

Defination ⇒ Unix is a operating system which can run any application it is multi tasking & multi user. it is a open source software

Characteristics :-

1) Multiuser ⇒ In this more than one user can work at a time

2) Multitasking ⇒ It can do different task at a time

3) Security ⇒ It can use username & Pass word to avoid unauthorized user.

4) Communication ⇒ One user can sent information to the another user.

5) Portabilty ⇒ Os can run on any Computer.

Structure of unix

1) Kernel
2) Shell

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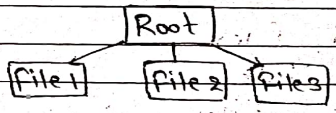
File & Directory structure ⇒ File stru
-ture can use diff. types of file In Directory structure we give Directory Information.

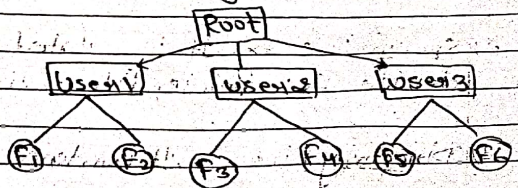
Directory Structure

Flat Directory | Two level Directory | Three or hierarchal Directory

1) Flat Directory ⇒ It store all file in one directory. It is difficult to remember all file name.



2) Two level Directory ⇒ In this every user make separate Directory & user store their file according to their requirement



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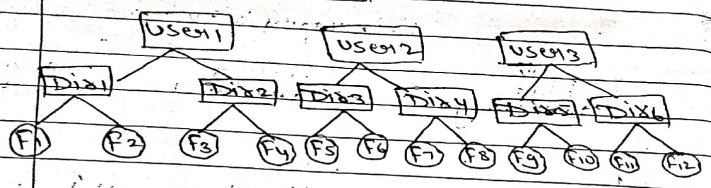
3) Three level / Hierarchy ⇒ In this every user make their separate directory & every directory store their separate file.



File Structure ⇒ It use following types of file.

1) Ordinary files
2) Special file
3) Directory files

1) ordinary file ⇒ It Contain Programs data & source code & It give file name, Size & Inode info of it

2) Special file ⇒ It is related with physical device, Ex. Pointer file, Disk file etc.

3) Directory file ⇒ It Contain address of ordinary file & Directory file.

Types of file System ⇒

The structure of Unix file is separate from other operating System. In this have following types of block.

1) Boot Block
2) Super Block
3) Data Block
4) INode Block

1) Boot Block ⇒ It load file related with booting.

2) Super Block ⇒ It give information related with file system.

3) INode Block ⇒ It is not related with data or programming. It give file or file System attribute info. INode Contain every file information which is called INode Entry. It is 64 byte. It Contain Following info.

i) Name of owner

(iii) File type
(iii) File access permission
(iv) File access data
(v) File update date & time
(vi) File Size
(vii) Link of file
(viii) Block address of file.

4) Data Block ⇒ It store data of program one block can store one file. If we want to store other block information then it is necessary to delete previous data.

Ans 8(a) Linux

Introduction ⇒ It use in large company & govt. organisation. all types of data base can run on linux operating System. It use in internet & intranet. It is a system software on which application software will run. It is a open source software which coding & software is free. It is made by 'Linus Torvalds'. linux is a clone of unix. flavour ⇒ Red Hat, Ubentea, Caldera, Centos

Features ⇒

1) Multiuser ⇒ In this many user can work at a time. Dos is a singal user operating system.

2) Multitasking ⇒ When any operating system can complete more than one task at a time then it is called multitasking. It can run foreground & in background different process at a time. It use time slice & Round Robin.

3) Security ⇒ In linux we can share data in program it save from unauthorized user. It use read, write & execute permission.

4) Communication ⇒ It can use e-mail & networking. It can helpful to exchange info., chatting

5) Portability ⇒ When we can run operating system at any Processor or hardware

6) virtual memory ⇒ It is a memory management technique.

7. Backup & Recovery → It avoid data loss. Can take backup.

Basic Element of linux
i) Kernel
ii) Shell.

Linux File System
i) Flat directory
ii) Two level } → 80's
iii) Three level / Hierarchy

Installation of linux
i) Hardware Requirement
i) Processor (X386)
ii) RAM (minimum 128 mb)
iii) Hard disk (minimum 4gb)
iv) Network Card
v) Sound Card.

ii) Software Requirement
i) Disk Partation Software
ii) Linux Software

3) Primary installation Steps →

Step-1 Booting → Copy file.
Step-2 using fdisk command disk Partation
1) It boot using booting.
2) It use Protocol booting from networking
3) It load using LILO & GRUB
→ LILO → Linux loder
→ GRUB → Grand unified boot loader.
4) We will make Partition or delete the Partition.

We use following steps to install O.S after Partation :-
i) Select the language.
ii) Select keyboard or Mouse
iii) Select the Computer type like desktop or Server
iv) Select Partition.
v) Slect GRUB or LILO
vi) Select Firewall.
vii) Select time zone.
viii) Continue choice.
ix) Accept licence agreement.
x) Give date & time.
xi) Give user account, name & Password.
xii) Select all drivers.