2C30357

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Internals - I

Module - I

2b) There are six major types in the System calls

* process control
* File mangement
* device mangement
* Information maintance
* communication
* protection.

i) process control:

process control includes end, abord, create, delete, terminate, set attributes, get attributes etc

In process control file is created, launched, monitored, paused and evautly stopped.

In the process control

In process control in the system call it process the assumes and process the data.

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ii) File mangement

File mangement includes, create file, delete file. oben, close read. write, set file altributes, get file altributes

In file mangement get/set; file name, file

In file mangement it creates file, open the file data is readed or write.

iii) Device mangement

Device mangement include, request device, relase device, open, close, read, write device set device mangement, get device mangement Device can be virtual or hardware devices device mangement

iv) Information maintance.

Information maintance includes, date, time data, file, set/get altributes etc.

In Information maintance helps to transfer. Information from user to os

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v) Communction

In communication it hai mayorly two parts

i) message passing system
ii) ~~system~~ shared memory system.

In message passing system there is no restriction. the message can be passed eventually.
In shared memory system

vi) protection:

In protection it helps the computer to scan the unnamed or unwanted ~~bar~~ host or guest that have entered the computer
There are many unwanted or unnamed files or records have entered the system in order check. the protection helps through that.

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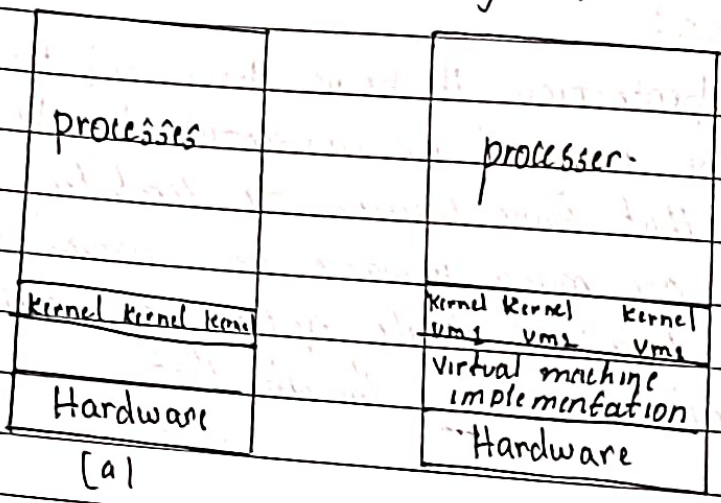
2a) The virtual machine is the computer.

2a) The virtual machine is single computer (cpu, mointor, Alu) into several different execution environment
Basically the virtual machine is the hardware component
virtual machines just assumes itself that it containes or it just virtual acts it containes all operating system.



(a) Non-virtual machine

(b) virtual machine.

- The virtual machine able the single hardware of computer to several d. execution enviroment
- The virtual manchine was first implement in the company called IBM

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* There are many example of virtual machine or in that VMWare is one the example.

VMWare

Vmware is one the main hardware of the virtual machine.

Module - 2

4 b)

Process	Threads.
* The process are heavyweight	* The Threads are light weight
* In process switching concept in used to interacting with operating system	* In thread switching concept is not used to interacting with operating system
* It requires more resources	* It requires less resources
* There are different memory of for each	* Single memory space is shared.
* inter-connection is slow due to different memory space	* Inter connection is fast due to same memory space.

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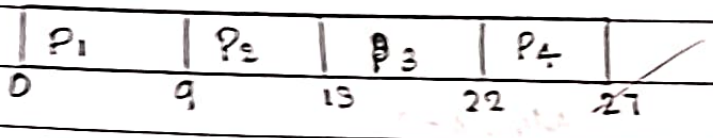
4a)

Process	Arrival Time	Burst Time	Priority
P1	0	9	3
P2	1	4	2
P3	2	9	1
P4	3	5	4

i) FCFS (First come First Serve)

Gantt chart for FCFS



Waiting time =

$(P_1 = 0) \; (P_2 = 9) \; (P_3 = 13) \; (P_4 = 22)$

Average time :

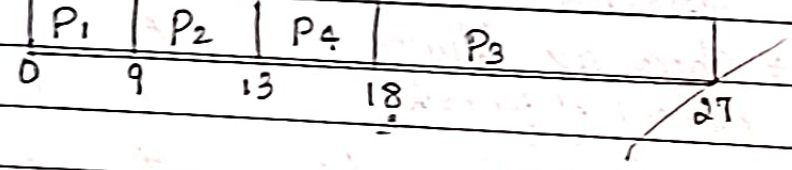
$= P_1 + P_2 + P_3 + P_4 \,/\, 4$

$= 0 + 9 + 13 + 22 \,/\, 4$

$= 11$

ii) SRTF

Gantt chart



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Waiting time:

0 $(P_1 = 0)$ $(P_2 = 9)$ $(P_3 = 13)$ $(P_4 = 18)$

Average time:-

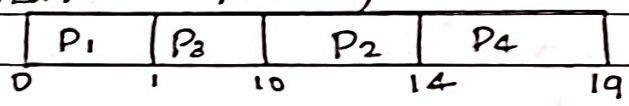
$P_1 + P_2 + P_3 + P_4 / 4$

$= 0 + 9 + 13 + 18 / 4$

$= 10$.

priority (preemptive)

Gantt chart for Priority



Waiting time = $(P_1 = 0)$ $(P_3 = 1)$ $(P_2 = 10)$ $(P_4 = 14)$

Average time = $P_1 + P_2 + P_3 + P_4 / 4$

$= 6.25$.

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Quiz

1. ~~c) new~~ a) fork

2 ~~c) when process using the CPU~~ b) when process in ~~wai~~ ~~to~~ to run

3. ~~c) communication between two threads of same process~~
b) communication blw two process

4. b) program counter.

5. b) 5