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BUBT

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BANGLADESH UNIVERSITY OF BUSINESS AND TECHNOLOGY

Class Test-1
Course: Operating Systems
Course code: CSE 309

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Class Test - 1

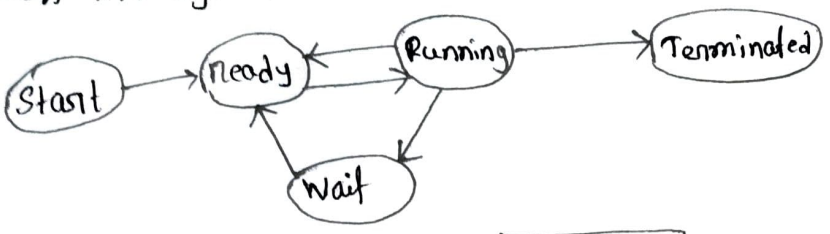
1 NO Ans

Process

Soln:

A process is basically a progrnam in execution. The execution of a process must progness in a sequential way.

Process life cycle:



Prognam

A prognam is an executible file which contains a certain set of instructions written to complete the specific job on our computer. For example: Google bnowser chnome.exe is an executable file which stones a set of instructions written in it which allow us to view web pages.

2 NO Ans

Soln: The full fonm of PCB is "Process Control Block". It is a data structure that contains infonmation of the process nelated to it. The process control block is also known as a task control block, entny of a Process table etc.

PCB helps us to store all the information required to keep track of all the running Processes. It is also accountable for storing the contents of processor registers. These are saved when the process moves from the running state and then returns back to it.

Some important components of PCB are:-

Process state: A process can be new, ready, running, waiting, etc.

Program counter: The program counter lets ~~you~~ ~~know~~ us know the address of the next instruction.

CPU registers: This component includes accumulators, index and general-purpose registers and information of condition code.

CPU Scheduling information: This component includes a process priority and various other scheduling parameters.

Memory-management: Memory allowcated to the process.

Accounting Information: CPU used, time limits etc.

I/O Status Information: I/O device allowcated process, a list of open files and so on.

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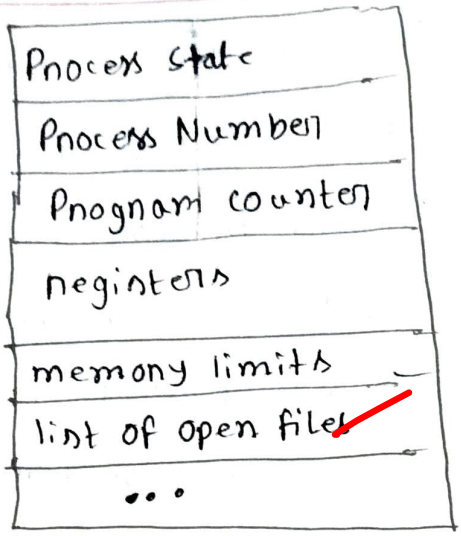

Figure: Process control block (PCB)

3NOAns

Soln: The communication between two process can be seen as a method of co-operation between them. Process can be communicate with each other through both:

1) Shared Memory
2) Message passing

An operating System can implement both method of communication. Here we will consider two processes: process#10 and Process 20 to explain it.

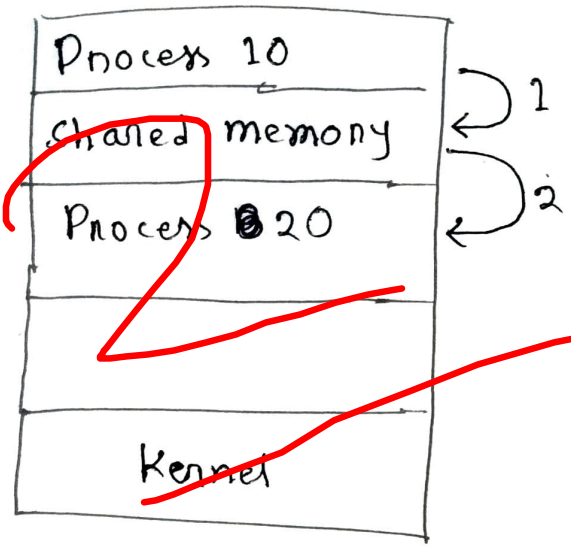

Fig 1: Shared memory

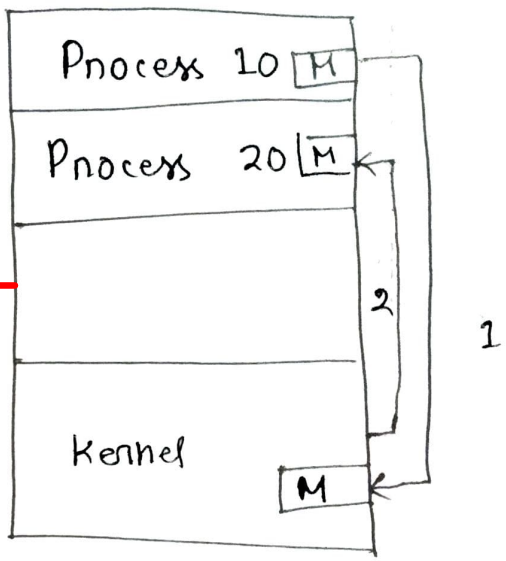

Fig 2: Message Passing

Communication between using shared memory requires to share some variable and it completely depends on how programmer will implement it.

Communication between Process using message passing does not require any kind of shared memory.