



1) Define deadlock?

A set of Blocked process each holding a resource and waiting to acquire a resource held by another process in set.

- Types:
- i) Deadlock prevention
 - ii) Deadlock Avoidance
 - iii) Deadlock Detection
 - iv) Recovery from deadlock.

(2) Deadlock prevention? Name the methods available for PD?

Deadlock prevention: Restrain the Request can be made.

- i) mutual exclusion
- ii) Hold & wait
- iii) No preemption
- iv) Circular wait.

Mutual Exclusion: mutual exclusion is not required for shared resources, It must hold for non-shared resources.

Hold & wait: must guarantee that whenever the process request a Resource it does not hold any other Resources

No preemption: If a process, is holding some Resources and Request another Resources that can't be immediately allocated to it then all resources currently being held or released.

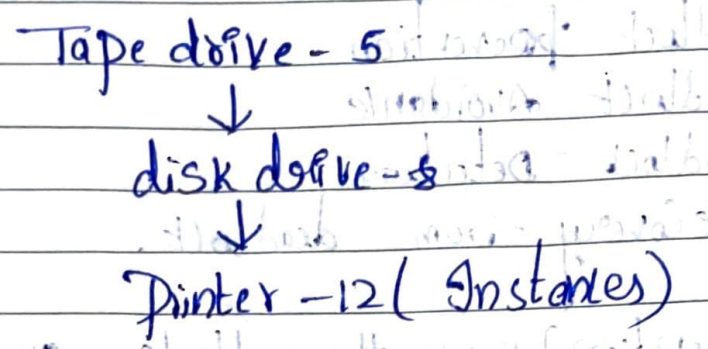
→ preemptive Resources are added to the list of Resources for which the process is waiting.

→ process will be re-started after getting old & new resources.



(iv) Circular wait -

Impose of the total ordering all Resources types and each process should request Resource in increasing order.



③ what are the two atomic operations in semaphore?

→ wait and signal are

④ critic.

- ① mutual-exclusion
- ② process solution
- ③ Bound waiting.

Is it possible to have DL with single process? Justify?

⑧ No, it is not possible to have a deadlock involving in one process, The DL involves a circular "hold and wait" condition two or more processes, so one process can't hold a resource, yet be waiting for another resources that is holding, so for one process, deadlock can't be possible.

Q List out the memory allocation strategies?

Ans: i) memory allocation first fit, best fit, worst fit
ii) fragmentation, internal, external fragmentation.
iii) Paging.

