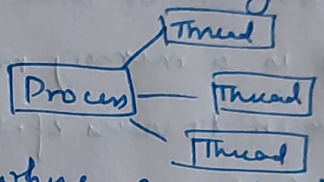
OS Questions

- OS acts as an intermediary among users of computer & computer hardware.
- Pipe is generally a connection b/w two or more processes that are interrelatid to each other.
- Bootstrap program is generally a program that initializes OS during startup. i.e. first code that is executed whenever computer system startups.
- Process synchronization is basically a way to coordinate processes that use shared resources or data.
- Virtual Memory is a memory management technique feature of OS that creates the illusion to users of a very large (main) memory.
- Thread is a path of execution that is composed of a program counter, thread id, stack & set of registers within the process. It simply provides a way to improve and increase the performance of applications through parallelism.
- The process is basically a program that is currently under execution. The main ~~featur~~ function of an OS is to manage & handle all of these processes.
- A scheduling algorithm is a process that is used to improve efficiency by utilizing maximum CPU & providing minimum waiting time to tasks. In simple words, it is used to allocate resources among various competing tasks.

Multitasking - It is a system that allows more efficient use of computer hardware. (Time-sharing systems)

Multiprocessing - It is a system that allows multiple/various processors to process two or more diff portions of the same task simultaneously.

- **Starvation** - A problem that usually occurs when a process has not been able to get the required resources it needs for progress with its execution for a long period of time.
- **Aging** - Technique to overcome starvation.
- **Kernel** - A computer program, usually considered as a central component or module of OS. Whenever the system starts, the kernel is loaded first & remains in the memory. Acts as an interface b/w user applications & hardware.
- **Process** - Program that is currently under execution by one or more threads
- **Thread** - Path of execution.



- **Deadlock** is generally a situation where a set of processes are blocked as each process is holding resources & waits to acquire resources held by another process.

Conditions for deadlock to occur.

1. Mutual Exclusion 2. Hold & Wait 3. No Pre-emption
4. Circular Wait or Resource Wait

Bankers Algo is used to prevent deadlock.