

QUESTIONS ON SCHEDULERS IN OPERATING SYSTEMS

Ques 1- Name the different types of schedulers?

Answer 1- There are three types of scheduler. The categorization is based on the frequency of their operation. These three schedulers are:-

1. Long Term Scheduler
2. Middle Term Scheduler
3. Short Term Scheduler

Ques 2- Explain the role of long term scheduler?

Answer 2- Long term scheduler is responsible for transferring a process to the ready queue and making it ready for CPU assignment. Since processes are not rapidly created therefore long term scheduler operate less frequently.

Ques 3- Explain the role of middle term scheduler?

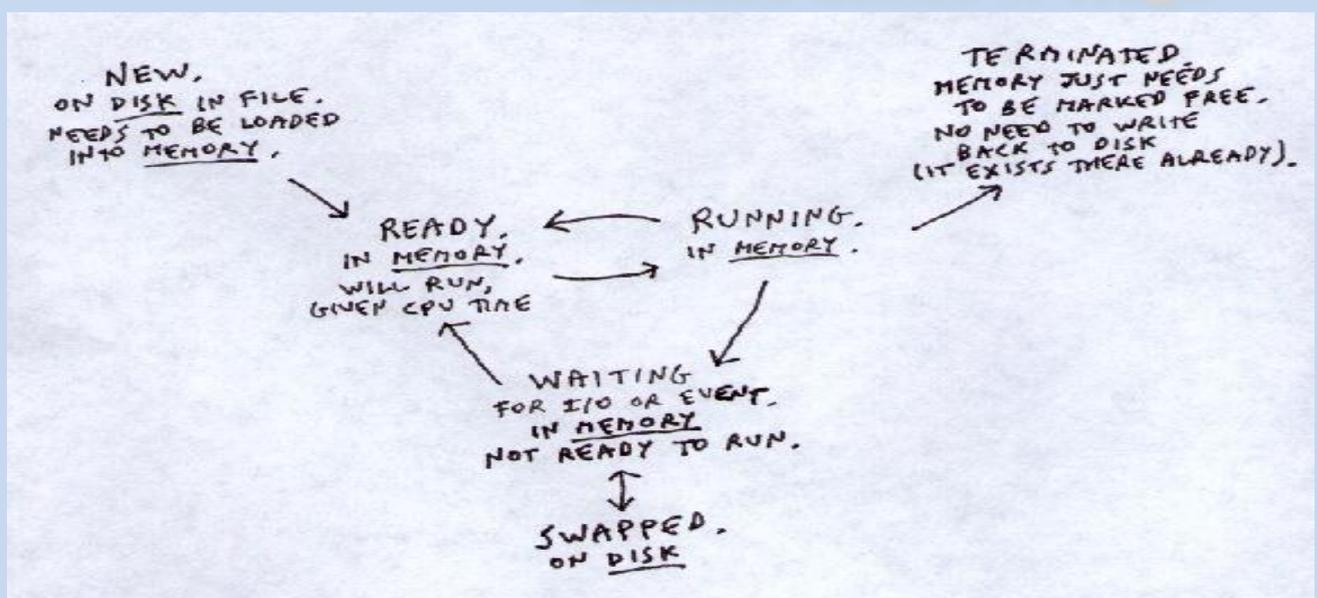
Answer 3- Sometimes when a process is waiting for CPU assignment and a process of higher priority arrives then the process in the ready queue is swapped out in a backing store and the higher priority process is swapped in and is assigned a CPU immediately.

Ques 4- Explain the role of short time scheduler?

Answer 4- Short term scheduler selects a process from the ready queue according to the type of scheduling implemented by the operating system. After selecting a process from the queue it assigns it to the CPU. Since CPU rapidly switches from one process to another therefore short term scheduler operates more frequently.

Ques 5- How we can diagrammatically represent the working of scheduler?

Answer 5- The diagrammatic representation of the working of the scheduler can be shown as-



Waiting for running- Short term scheduler.

Swap-in and Swap-out-Middle term scheduler.

Ques 6- Difference between short term and long term scheduler?

Answer 6- Short term scheduler selects a process from the ready queue and assigns it to the CPU and it operates more frequently than long term scheduler while long term scheduler transfers a process into the ready queue and hence it occurs less frequently.

Ques 7- Does every operating system have all the types of schedulers?

Answer 7- No, windows and Unix does not have a long term scheduler as in these operating system as soon as processes are created they are automatically transferred to the ready queue.

Ques 8- Why short term scheduler execute at higher frequency than long term scheduler?

Answer 8- Since a process is created less frequently than the switching of the CPU from one process to another. Therefore, short term scheduler operates at higher frequency than long term scheduler.

Ques 9- What are the points that long term scheduler should consider while selecting a process?

Answer 9- There are two types of processes:

1. **I/o Bound.**
2. **CPU Bound.**

Therefore, Long term scheduler should select a proper mix from these different types of processes.

Ques 10- Explain the term swap-in and swap-out?

Answers 10- **Swap-out** is a process of swapping a process out from the ready queue to a backing store when a process of higher priority arrives and claims for the CPU while **Swap-in** is a process where swapped out process is transferred back to the ready queue from the backing store.