

Matthew Ryan Wong

First-Come-First-Serve (FCFS) Scheduler

- Processes are carried out using the FCFS non-preemptive scheduling algorithm in the order that they are received.
- The primary objective is simplicity, as the first process in the queue is always selected for execution.
- Maintain a simple queue data structure to store processes.
- Execute the processes in the order they enter the queue.
- No tie-breaking rules are necessary, as FCFS does not allow preemption.

Round Robin (RR) Scheduler

- RR is a scheduling algorithm designed to provide fair time-sharing among processes.
- It uses time slices (quantum) for each process before moving to the next.
- Designed to handle both CPU-bound and I/O-bound processes reasonably well.
- Maintain a queue to store processes.
- Implement a counter to track the time remaining for the current process.

Shortest Job First (SJF) Scheduler

- SJF is a scheduling algorithm that selects the process with the shortest burst time.
- It aims to minimize average waiting time.
- Accurate prediction of burst times is challenging, as it requires knowledge of future execution times.
- Maintain a queue of processes, sorted by their burst time.
- When a process arrives, it is inserted into the queue at the appropriate position.
- The next process to execute is the one at the front of the queue (with the shortest burst time).

Tie-Breaking Rules:

Round Robin (RR): In case of multiple processes arriving simultaneously, they are placed in the queue in a predefined order. This order can be based on process ID, priority, or some other predetermined criterion.

Shortest Job First (SJF): If multiple processes have the same burst time, we employ the following tie-breaking rules: