Group A

Experiment No. 1

Title :

Aim : To study implement various scheduling algorithms

Theory :

CPU Scheduling deals with the problem of deciding which of the processes in the ready queue is to be allowed to utilize the CPU. The criteria for selection for an algorithm are

    1)The maximum throughput
    2)Least Turn around time
    3)Minimum waiting time
    4)Maximum CPU utilization

1)First Come First Serve(FCFS)
    FCFS is the simplest CPU scheduling algorithm. It is implemented using a job queue, when a process requests the CPU it is added at the tail of the job queue. The CPU is allowed to the processes which is at the head of the queue. However the turn around time (TAT) varies which is not favored.

2)Shortest Job First(SJF)
    This algorithm associates with the length of the CPU burst. When the CPU is available it is assigned to the job with the smallest CPU burst . This algorithm provides minimum average waiting time. The major problem with this algorithm is the longest job has to wait for long time.

3) **Round-robin** (**RR**)
    It is one of the algorithms employed by process and network schedulers in computing. As the term is generally used, time slices (also known as time quanta) are assigned to each process in equal portions and in circular order, handling all processes without priority (also known as cyclic executive). Round-robin scheduling is simple, easy to implement, and starvation-free. Round-robin scheduling can be applied to other scheduling problems, such as data packet scheduling in computer networks. It is an operating system concept.

4) Priority Scheduling

It is **a method of scheduling processes that is based on priority**. In this algorithm, the scheduler selects the tasks to work as per the priority. The   processes with higher priority should be carried out first, whereas jobs with equal priorities are carried out on a round-robin or FCFS basis.

***** Solve problem based on FCFS & SJF Round Robin Priority Algorithm******

 Flow Chart / Algorithm