**OPERATING SYSTEMS**

**JAN-MAY 2023**

**LAB ASSIGNMENT 2**

Implement the scheduling algorithms SRTF (pre-emptive), SJF(non-pre-emptive) and Round Robin CPU Scheduling (quantum=5) and Virtual Round Robin algorithm (quantum=5) for the sample data given below. Assume all processes are CPU bound.

| Process Name | Arrival Time | CPU Burst | I/O Burst |
|---|---|---|---|
| P0 | 0 | 24 | 2 units after every 5 unit of CPU burst |
| P1 | 3 | 17 | 3 units after every 6 unit of CPU burst |
| P2 | 8 | 50 | 2 units after every 5 unit of CPU burst |
| P3 | 15 | 10 | 3 units after every 6 unit of CPU burst |

All programs should print various performance measures (turnaround time, waiting time, response time for each process and system throughput)

Assume that there is only one CPU and one I/O device in the system. The I/O device can be assumed to be sequential i.e. it serves only one process at a time.

Save the above data in a file as shown below and read data from that file.

File Data Format

Line 1: P0;0;24;2;5

Line 2: P1;3;17;3;6

Line 3: P2;8;50;2;5

Line 4: P3;15;10;3;6

You can choose any programming language of your choice.

**NOTE:**

1. You need to submit one zip file containing four code, input, output files for each program. Rename the zip file with your section_last three digits of roll no strictly (eg: OS_A_000_001_002).

2. Make a group of 4 members.

3. Marks Distribution: CODE DEMO + VIVA= 10 M + 15 M.