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
PO	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.