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SE-Comps B/Batch C

2022300118

OS Experiment 5 : Scheduling

(All source code files are submitted on moodle)

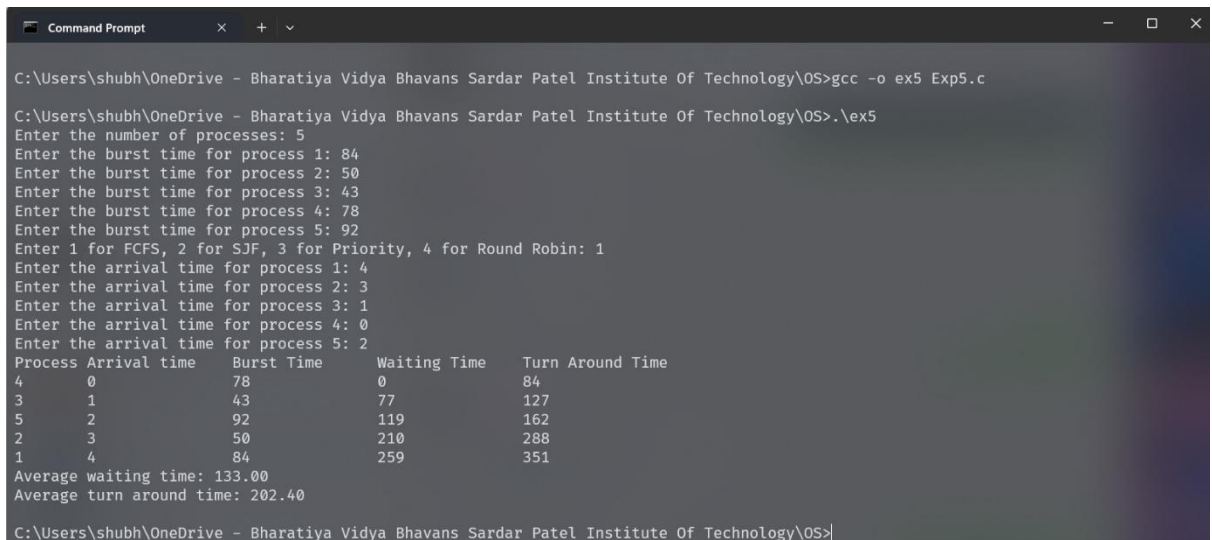
Problem statement: Write a program to simulate the following Non-pre-emptive CPU scheduling algorithms to find turnaround time and waiting time.

a) FCFS b) SJF c) Round Robin d) Priority

Files used: *Exp5.c*

Output:

1. FCFS



```
C:\Users\shubh\OneDrive - Bharatiya Vidya Bhavans Sardar Patel Institute Of Technology\OS>gcc -o ex5 Exp5.c
C:\Users\shubh\OneDrive - Bharatiya Vidya Bhavans Sardar Patel Institute Of Technology\OS>.\ex5
Enter the number of processes: 5
Enter the burst time for process 1: 84
Enter the burst time for process 2: 50
Enter the burst time for process 3: 43
Enter the burst time for process 4: 78
Enter the burst time for process 5: 92
Enter 1 for FCFS, 2 for SJF, 3 for Priority, 4 for Round Robin: 1
Enter the arrival time for process 1: 4
Enter the arrival time for process 2: 3
Enter the arrival time for process 3: 1
Enter the arrival time for process 4: 0
Enter the arrival time for process 5: 2
Process Arrival time    Burst Time    Waiting Time    Turn Around Time
4      0           78           0             84
3      1           43           77           127
5      2           92          119           162
2      3           50          210           288
1      4           84          259           351
Average waiting time: 133.00
Average turn around time: 202.40
C:\Users\shubh\OneDrive - Bharatiya Vidya Bhavans Sardar Patel Institute Of Technology\OS>
```

2. SJF

```
Command Prompt
C:\Users\shubh\OneDrive - Bharatiya Vidya Bhavans Sardar Patel Institute Of Technology\OS>.\ex5
Enter the number of processes: 5
Enter the burst time for process 1: 84
Enter the burst time for process 2: 50
Enter the burst time for process 3: 43
Enter the burst time for process 4: 78
Enter the burst time for process 5: 92
Enter 1 for FCFS, 2 for SJF, 3 for Priority, 4 for Round Robin: 2
Process Burst Time    Waiting Time    Turn Around Time
3        43          0              43
2        50          43             93
4        78          93            171
1        84         171            255
5        92         255            347
Average waiting time: 112.40
Average turn around time: 181.80
C:\Users\shubh\OneDrive - Bharatiya Vidya Bhavans Sardar Patel Institute Of Technology\OS>
```

3. Priority Scheduling

```
Command Prompt
C:\Users\shubh\OneDrive - Bharatiya Vidya Bhavans Sardar Patel Institute Of Technology\OS>.\ex5
Enter the number of processes: 5
Enter the burst time for process 1: 84
Enter the burst time for process 2: 50
Enter the burst time for process 3: 43
Enter the burst time for process 4: 78
Enter the burst time for process 5: 92
Enter 1 for FCFS, 2 for SJF, 3 for Priority, 4 for Round Robin: 3
Enter the priority for process 1: 5
Enter the priority for process 2: 3
Enter the priority for process 3: 1
Enter the priority for process 4: 2
Enter the priority for process 5: 4
Process priority    Burst Time    Waiting Time    Turn Around Time
3        1          43             43
4        2          78            121
2        3          50            171
5        4          92            263
1        5          84            347
Average waiting time: 119.60
Average turn around time: 189.00
C:\Users\shubh\OneDrive - Bharatiya Vidya Bhavans Sardar Patel Institute Of Technology\OS>
```

4. Round Robin scheduling

```
Command Prompt
C:\Users\shubh\OneDrive - Bharatiya Vidya Bhavans Sardar Patel Institute Of Technology\OS>.\ex5
Enter the number of processes: 5
Enter the burst time for process 1: 84
Enter the burst time for process 2: 50
Enter the burst time for process 3: 43
Enter the burst time for process 4: 78
Enter the burst time for process 5: 92
Enter 1 for FCFS, 2 for SJF, 3 for Priority, 4 for Round Robin: 4
Enter the quantum: 25
Process Burst Time    Waiting Time    Turn Around Time
1        84         243            327
2        50         125            175
3        43         150            193
4        78         252            330
5        92         255            347
Average waiting time: 205.00
Average turn around time: 274.40
C:\Users\shubh\OneDrive - Bharatiya Vidya Bhavans Sardar Patel Institute Of Technology\OS>
```