Government Engineering College, Thrissur

CS331 – System Software Lab

Documentation -

Exp1 – CPU Scheduling Algorithm

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Experiment 1

Simulate the following non-preempitive CPU scheduling algorithms to find turnaround time and waiting time
1. FCFS 2. SJF 3. Round Robin(pre-empitive) 4. Priority

Compilation of Code

Prerequisite

- The code is provided in the **program.c** along with this documentation. You can open the terminal in Linux (Ubuntu 18.04 tested). Then run the command

  gcc program.c

  ./a.out

- You will see the content of the **input.txt** in the first part. If you want to change input.txt then change the code in the format

  Number <Tab> Number <Tab> Number

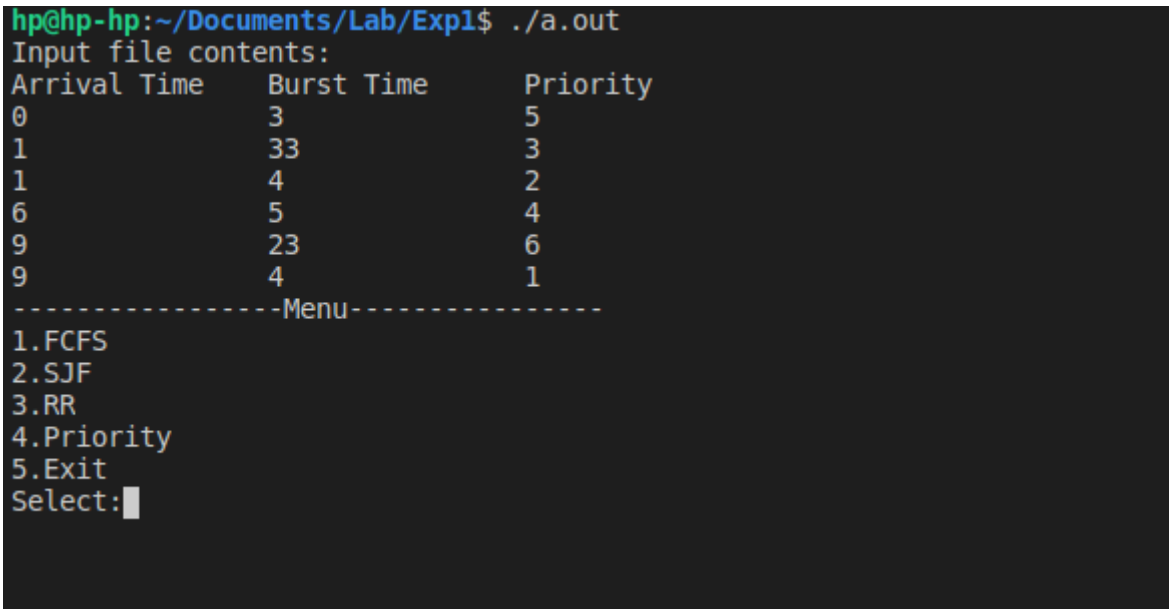
  First number is Arrival Time(AT), second is Burst Time(BT) and last is Priority. You can provide the AT, BT, and priority related to each process in a new line.

  Note that there should not be new line and maximum allowed burst time is 10000.

- **For QUANTUM in Round Robin please set in program.c #define (Default 3)**
- Output of the code will be printed on the **console** as well as to a text file named **output.txt**
- **Note: Please see the my_machine_output.txt file for the output I got on my machine.**

Output / Screenshots

Contents of input.txt and menu


hp@hp-hp:~/Documents/Lab/Exp1$ ./a.out
Input file contents:
Arrival Time Burst Time Priority
0 3 5
1 33 3
1 4 2
6 5 4
9 23 6
9 4 1
----------Menu----------
1.FCFS
2.SJF
3.RR
4.Priority
5.Exit
Select:

Output of each menu item

1. FCFS – First Come First Served

```
Input file contents:
Arrival Time    Burst Time      Priority
0               3               5
1               33              3
1               4               2
6               5               4
9               23              6
9               4               1
-----------------Menu----------------
1.FCFS
2.SJF
3.RR
4.Priority
5.Exit
Select:1
First-Come-First-Serverd
Turn Arount Time        Waiting Time
3                       0
35                      2
39                      35
39                      34
59                      36
63                      59
```

2. SJF – Shortest Job First

```
Input file contents:
Arrival Time    Burst Time      Priority
0               3               5
1               33              3
1               4               2
6               5               4
9               23              6
9               4               1
-----------------Menu----------------
1.FCFS
2.SJF
3.RR
4.Priority
5.Exit
Select:2
Shortest-Job-First
Turn Arount Time        Waiting Time
3                       0
71                      38
6                       2
6                       1
30                      7
7                       3
```

3. Round Robin – Pre-Empitive

```
Input file contents:
Arrival Time    Burst Time      Priority
0               3               5
1               33              3
1               4               2
6               5               4
9               23              6
9               4               1
-----------------Menu----------------
1.FCFS
2.SJF
3.RR
4.Priority
5.Exit
Select:3
Round-Robin
Turn Arount Time        Waiting Time
3                       0
71                      38
21                      17
18                      13
54                      31
19                      15
```

4. Priority Scheduling

```
Input file contents:
Arrival Time    Burst Time      Priority
0               3               5
1               33              3
1               4               2
6               5               4
9               23              6
9               4               1
-----------------Menu----------------
1.FCFS
2.SJF
3.RR
4.Priority
5.Exit
Select:4
Priority
Turn Arount Time        Waiting Time
3                       0
39                      6
6                       2
43                      38
63                      40
35                      31
```

5. Exit

```
Input file contents:
Arrival Time    Burst Time      Priority
0               3               5
1               33              3
1               4               2
6               5               4
9               23              6
9               4               1
-----------------Menu---------------
1.FCFS
2.SJF
3.RR
4.Priority
5.Exit
Select:5
```