Government Engineering College, Thrissur

CS331 – System Software Lab
Documentation -

Exp1 – CPU Scheduling Algorithm

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GECT CSE S5

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 20.04 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**

Output / Screenshots

Contents of input.txt and menu

Output of each menu item

1. FCFS – First Come First Served

```
shuaib@shuaib-pc:~/Documents/ss/exp 1$ ./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
 **              Choose              **
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

```
shuaib@shuaib-pc:~/Documents/ss/exp 1$ ./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
 **              Choose              **
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

```
shuaib@shuaib-pc:~/Documents/ss/exp 1$ ./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
 **              Choose                **
1.FCFS
2.SJF
3.RR
4.Priority
5.Exit
Select:3
Round-Robin
 Turn Arcount Time              Waiting Time
 3                              0
 71                             38
 21                             17
 18                             13
 54                             31
 19                             15
```

4. Priority Scheduling

```
shuaib@shuaib-pc:~/Documents/ss/exp 1$ ./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
 **              Choose                **
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

```
shuaib@shuaib-pc:~/Documents/ss/exp 1$ ./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
 **              Choose             **
1.FCFS
2.SJF
3.RR
4.Priority
5.Exit
Select:5
shuaib@shuaib-pc:~/Documents/ss/exp 1$
```