The Scheduler Assignment

Operating Systems

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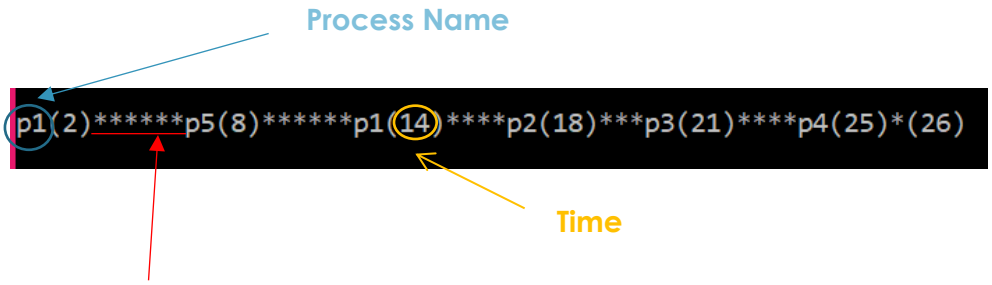
Section: 1

TABLE OF CONTENTS

TYPES OF SCHEDULERS SUPPORTED:

1. FCFS
2. SJF (Preemptive and Non Preemptive)
3. Priority (Preemptive and Non Preemptive) (the smaller the priority number the higher the priority)
4. Round Robin

THE GANTT CHART:



P1 started at 2 and ended at 8 with duration of 6

→ p5 stared at 8 and ended at 14 with duration of 6

→ p2 started at 18 and ended at 21 with duration of 3

… Etc.

READING INPUT FROM EXTERNAL FILE:

1. **Write the data on a file named data.csv using this format :**

   a. **FCFS** b. **SJF** c. **RR**

   Process name, arrival time, burst time

   EX:

```
p1,0,10
p2,3,5
p3,5,2
p4,5,4
p5,7,1
p6,4,5
p7,5,5
```

   d. **Priority**
   Process name, arrival time, burst time, Priority

   EX:

```
p1,0,10,1
p2,3,5,0
p3,5,2,3
p4,5,4,5
p5,7,1,2
```

2. **Save data.csv in the same destination of the TheSchedular.exe file.**

EXAMPLES

1. FCFS

INPUT:

Name	Arrival Time	Burst Time
p1	0	10
p2	3	5
p3	5	2
p4	5	4
p5	7	1

IN data.csv :

p1,0,10

p2,3,5

p3,5,2

p4,5,4

p5,7,1

OUTPUT:

```
enter no. of processes
5
enter 1 for input file OR enter 0 for CMD
1


p1(0)**********p2(10)*****p3(15)**p4(17)****p5(21)*(22)


name    arrival burst   departure
p1       0       10      10
p2       3       5       15
p3       5       2       17
p4       5       4       21
p5       7       1       22

average time = 8.6

//////////////////////DONE//////////////////////////
```

2. SJP

INPUT:

Name	Arrival Time	Burst Time
p1	0	10
p2	3	5
p3	5	2
p4	5	4
p5	7	1

IN data.csv :

p1,0,10

p2,3,5

p3,5,2

p4,5,4

p5,7,1

OUTPUT:

Preemptive:

```
enter no. of processes
5
enter 1 for input file OR enter 0 for CMD
1
enter 1 for preemptive OR enter 0 for Nonpreemptive
1


p1(0)***p2(3)**p3(5)**p5(7)*p2(8)***p4(11)****p1(15)*******p1(22)



name    arrival burst   departure
p1       0       10      22
p2       3       5       11
p3       5       2       7
p4       5       4       15
p5       7       1       8

average time = 4.2

//////////////////////DONE//////////////////////////
```

Non-Preemptive:

```
Enter no. of processes
5
Enter 1 for input file OR enter 0 for CMD
1
Enter 1 for preemptive OR enter 0 for Nonpreemptive
0


p1(0)*********p5(10)*p3(11)**p4(13)****p2(17)*****p2(22)



Name    Arrival Burst   Departure
p1       0       10      10
p2       3       5       22
p3       5       2       13
p4       5       4       17
p5       7       1       11

Average Waiting time = 6.2

////////////////////////DONE//////////////////////////
```

3. PRIORITY

INPUT:

Name	Arrival Time	Burst Time	Priority
p1	0	10	1
p2	3	5	0
p3	5	2	2
p4	5	4	4
p5	7	1	3

IN data.csv :

p1,0,10,1

p2,3,5,0

p3,5,2,2

p4,5,4,4

p5,7,1,3

OUTPUT:

Preemptive:

```
enter no. of processes
5
enter 1 for input file OR enter 0 for CMD
1
enter 1 for preemptive OR enter 0 for Nonpreemptive
1


p1(0)***p2(3)*****p1(8)*******p3(15)**p5(17)*p4(18)****(22)p4



name    arrival burst   departure       priority
p1       0       10      15              1
p2       3       5       8               0
p3       5       2       17              2
p4       5       4       22              4
p5       7       1       18              3

average time = 7.6

//////////////////////DONE//////////////////////////
```

Non-Preemptive:

```
enter no. of processes
5
enter 1 for input file OR enter 0 for CMD
1
enter 1 for preemptive OR enter 0 for Nonpreemptive
0


p1(0)*********p2(10)*****p3(15)**p5(17)*p4(18)****(22)p4



name    arrival burst   departure       priority
p1       0       10      10              1
p2       3       5       15              0
p3       5       2       17              2
p4       5       4       22              4
p5       7       1       18              3

average time = 8

////////////////////////DONE//////////////////////////
```

4. RR

INPUT:

Name	Arrival Time	Burst Time
p1	0	10
p2	3	5
p3	5	2
p4	5	4
p5	7	1

IN data.csv :

p1,0,10

p2,3,5

p3,5,2

p4,5,4

p5,7,1

OUTPUT:

```
enter no. of processes
5
enter 1 for input file OR enter 0 for CMD
1
enter Time Quantum
3


p1(0)***p2(3)***p3(6)**p4(8)***p5(11)*p1(12)***p2(15)**p4(17)*p1(18)***p1(21)*p1(22)



name    arrival burst   departure
p1       0       10      22
p2       3       5       17
p3       5       2       8
p4       5       4       18
p5       7       1       12

average time = 7

//////////////////////DONE//////////////////////////
```