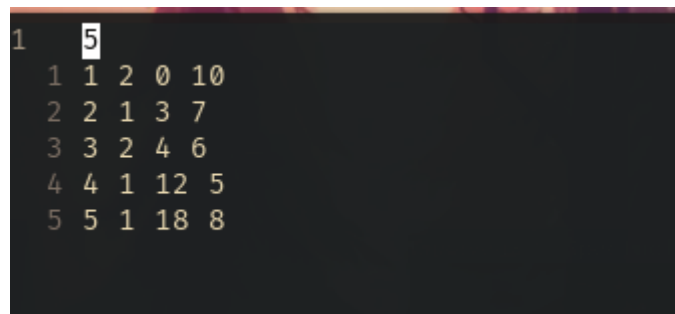


106119029 , OS Lab Endsem

Dipesh Kafle

Input



A screenshot of a terminal window with a dark background and light-colored text. The text is as follows:

```
1 5
1 1 2 0 10
2 2 1 3 7
3 3 2 4 6
4 4 1 12 5
5 5 1 18 8
```

The first line shows the number of processes (1) and the number of time slices (5). The subsequent lines represent five processes, each with its ID, priority, burst time, and two other values.

Output

```
λ ~/Acads/Sem4/CSLR42-OSLab/endsem → cat inp | ./a.out
Enter num of processes: Enter process number, queue number, arrival time and burst time for the process
Enter process number, queue number, arrival time and burst time for the process
Enter process number, queue number, arrival time and burst time for the process
Enter process number, queue number, arrival time and burst time for the process
1 has started at 0
1 has completed one quantum at 2 from queue 2
1 has started at 2
1 has preempted at 3 and pushed to Q2 again
2 has started at 3
2 has completed one quantum at 7 from queue 1
2 has started at 7
2 has completed at 10
2 has started at 10
2 has completed at 11
1 has started at 11
1 has completed at 12
4 has started at 12
4 has completed one quantum at 16 from queue 1
4 has started at 16
4 has completed at 17
4 has started at 17
4 has completed at 18
5 has started at 18
5 has completed one quantum at 22 from queue 1
5 has started at 22
5 has completed at 26
5 has started at 26
5 has completed at 27
1 has started at 27
1 has completed at 28
3 has started at 28
3 has completed at 29

Turnaround times:
5 9
4 6
3 25
2 8
1 28
Total turnaround time = 76
Waiting times:
5 0
4 0
3 24
2 0
1 24
Total waiting time = 48
```