

Lab 5 – CPU Scheduling Simulator

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Activities Terminal Thu 00:00 melissa@ubuntu: ~/Operating_Systems/lab5
File Edit View Search Terminal Help
melissa@ubuntu:~/Operating_Systems/lab5$ make
make: Nothing to be done for 'all'.
melissa@ubuntu:~/Operating_Systems/lab5$ ./cpu_sched input1.txt
Number of processes: 4
id:0 arrival:0 burst:1
id:1 arrival:2 burst:4
id:2 arrival:3 burst:1
id:3 arrival:4 burst:2

First Come First Serve
PID ArrTime Start Finish RunningTime WaitTime
0 0 0 1 1 0
2 1 5 4 -1
3 5 6 1 2
4 6 8 2 2
Average Waiting time: 0.750000
Average Turn Around Time: 2.750000

Shortest Job First
PID ArrTime BurstTime WaitTime TurnaroundTime
1 0 1 1
1 1 2 2
1 2 3 3
2 3 5 5
Average Waiting Time: 1.500000
Average Turnaround Time: 2.750000

Round Robin
Enter Time Quantum: 1
^C
melissa@ubuntu:~/Operating_Systems/lab5$
```

Test case 1^

```
Activities Terminal Thu 00:01 melissa@ubuntu: ~/Operating_Systems/lab5
File Edit View Search Terminal Help
melissa@ubuntu:~/Operating_Systems/lab5$ make
make: Nothing to be done for 'all'.
melissa@ubuntu:~/Operating_Systems/lab5$ ./cpu_sched input2.txt
Number of processes: 3
id:0 arrival:0 burst:7
id:1 arrival:1 burst:9
id:2 arrival:7 burst:2

First Come First Serve
PID ArrTime Start Finish RunningTime WaitTime
0 0 0 7 7 0
1 1 7 16 9 6
7 16 18 2 9
Average Waiting time: 5.000000
Average Turn Around Time: 11.000000

Shortest Job First
PID ArrTime BurstTime WaitTime TurnaroundTime
2 0 2 2
2 2 4 4
2 4 6 6
Average Waiting Time: 2.000000
Average Turnaround Time: 4.000000

Round Robin
Enter Time Quantum: 2
PID ArrTime BurstTime WaitTime TurnaroundTime
44058 44058 -2
1623408692 1623408692 -2
^C
melissa@ubuntu:~/Operating_Systems/lab5$
```

Test case 2^

```
Activities Terminal
Thu 00:03
melissa@ubuntu: ~/Operating_Systems/labs$
File Edit View Search Terminal Help
melissa@ubuntu:~/Operating_Systems/labs$ make
make: Nothing to be done for 'all'.
melissa@ubuntu:~/Operating_Systems/labs$ ./cpu_sched input3.txt
Number of processes: 5
id:0 arrival:0 burst:5
id:1 arrival:3 burst:1
id:2 arrival:5 burst:6
id:3 arrival:4 burst:2
id:4 arrival:7 burst:1

First Come First Serve
PID ArrTime Start Finish RunningTime WaitTime
0 0 0 5 5 0
3 5 6 1 2
4 6 8 2 2
5 8 14 6 3
7 14 15 1 7
Average Waiting time: 2.800000
Average Turn Around Time: 5.800000

Shortest Job First
PID ArrTime BurstTime WaitTime TurnaroundTime
1 0 1 1
1 1 2 2
1 2 3 3
1 3 4 4
1 4 5 5
Average Waiting Time: 2.000000
Average Turnaround Time: 3.000000

Round Robin
Enter Time Quantum: 3
^C
melissa@ubuntu:~/Operating_Systems/labs$
```

Test case 3^

In order to run and compile my program, first you must run “make” to recompile any edits that you might have made in the code. In the terminal, indicate which file should be read in and the program will execute First Come First Serve, Shortest Job First, and Round Robin. During round robin, the program will prompt the user to input the time quantum, which will indicate how long each process will run for in round robin. When the program begins, it reads in the file the user provided and executes the respective CPU scheduler and prints the statistics.