



Operating Systems Design Lab
Computer Engineering Department
Spring 2023/2024
Lab 7: CPU Scheduling

Objectives

1. Write a C program to simulate the following **non-preemptive** CPU scheduling algorithms.
 - (a) FCFS
 - (b) SJF
 - (c) Round Robin

Prelab

1. Review the CPU scheduling topic of the textbook.

Experiment

Write a program that takes the following as an input:

1. Number of processes N .
2. The CPU burst length for every process.
3. The scheduling algorithm to use (1: FCFS, 2: RR, 3: SJF).

Assume all the processes arrive at the same time $t = 0$. Then, the program calculates the schedule for the given processes using the algorithm of choice. Based on the calculated schedule, the program then calculates the turnaround time and the waiting time of every process in addition to their averages. Here is a sample run of the program:

INPUT

```
Enter the number of processes -- 3
Enter Burst Time for Process 0 -- 24
Enter Burst Time for Process 1 -- 3
Enter Burst Time for Process 2 -- 3
Choose algorithm (FCFS[1], RR[2], SJF[3]) -- 1
```

OUTPUT

PROCESS	BURST TIME	WAITING TIME	TURNAROUND TIME
P0	24	0	24
P1	3	24	27
P2	3	27	30

```
Average Waiting Time-- 17.000000
Average Turnaround Time -- 27.000000
```