CSC 262 Operating Systems Course
Assignment #4
Due Date: Oct 21, Friday

CPU Scheduling Simulation

In this assignment, you are asked to read time quadrant, dispatcher latency of scup the dispatcher algorithm as parameters and arrival times, burst times, process names and priorities from an input file and print out the average waiting time, average response time and cpu utilization percentage and turn around time of each process for the algorithms FCFS, RR, SJF (preemptive and non-preemptive).
The number of process will be flexible (so you can have 3 or 7 or 10 processes in the input file).
A sample input file would be like below (the numbers can change but please keep the same format, so your code will be tested with similar input files).

```
10
1
P1 0 10 1
P2 0 8 3
P3 2 7 3
P4 2 5 1
```

So, the file uses space as separator between the columns. The first line indicates the time quadrant (if the scheduler needs it), the second line indicates the dispatcher latency (or context switch cost), the rest of the file has process info, which are process name, arrival time, burst time and priority with the given order. Please note that, some algorithms might not use all the information provided.
As the output, you are asked to calculate:

- average waiting time,
- average response time
- cpu utilization percentage
- turn around time

For each of the algorithms:

- FCFS (First Come First Serve)
- SJF non-preemptive version
- SJF preemptive version
- RR (Round Robin)