CSCD 340
HW 3

The purpose of this homework is to write your own scheduler for two (2) different algorithms, and then compare and contrast those algorithms for a certain data set. The specifications for a set of functions is provided below. You will need to complete the following:

- Write the code for each algorithm as specified below
- Create a common set of test data that can be generally applied to all the algorithms – this data set will contain at least 50 jobs per algorithm to be scheduled.
- Write at least a 3 paragraph summary and compare and contrast of the different algorithms based on your data set. 12 pt. font 1 inch margins all around.

SPECIFICATIONS

Each process in an operating system is managed by using a data structure called the Process Control Block (PCB). A PCB contains the process ID, arrival timestamp, total burst time, execution start time, execution end time, remaining burst time and the priority of the process in the system. The PCB class is defined as follows:

```
struct PCB
{
	int processID;
	long arrivalTimeStamp;
	long totalBurstTime;
	long executionStartTime;
	long executionEndTime;
	long remainingBurstTime;
	int processPriority;
};
```

The set of processes in the operating system that are ready to execute are maintained in a data structure called the Ready Queue. This data structure is a linked list of PCBs of the processes that are waiting for the CPU to become available so that they can execute.

To determine the schedule of execution for the processes in an operating system, we consider two policies:

1. Priority-based Non-Preemptive Scheduling
2. Shortest-Job-First Non-Preemptive Scheduling

NOTES

- You have free range here. You will need to provide some means for the grader to create/enter/do whatever with our own values. – Meaning clear instructions in a Readme.txt on how to do this

TO TURN IN

A zip file containing:

- You C Code
- Your data file(s)
- Readme.txt
- A Makefile that will have a target of hw3 – the grader will execute your code
- A PDF named last name first letter of first name hw3.pdf – this will contain your analysis.

Your zip will be named last name first letter of first name hw3.zip (Example: steinershw3.zip)