Programming Assignment 3 Report

Submitted Files:

- scheduler_fcfs.h
- scheduler_fcfs.cpp
- scheduler_sjf.h
- scheduler_sjf.cpp
- scheduler_priority.h
- scheduler_priority.cpp
- scheduler_rr.h
- scheduler_rr.cpp

How to Compile and Run the Program:

To compile the program, use command: make [fcfs / rr / sjf / priority]
To run the programs fcfs/sjf/priority, use command: ./[fcfs/sjf /priority] schedule.txt
To run the program rr, use command: ./rr schedule.txt [Int representing Time Quantum]

Results

All tests passed.

Features Implemented

- First-come, first-served (FCFS), which schedules tasks in the order in which they request the CPU.
- Shortest-job-first (SJF), which schedules tasks in order of the length of the tasks' next CPU burst.
- Priority scheduling, which schedules tasks based on priority. A bigger number means higher priority.
- Round-robin (RR) scheduling, where each task runs for a time quantum (or for the remainder of its CPU burst).

Design and Implementation Choices

Design and implementation utilize structs to hold reference to PCB and its associated turnaround times and wait times (and in rr, remaining burst time) and a vector to represent the queue holding the PCBs and a vector to store PCBs that completed running for access to their turnaround time and wait time.

Lessons Learned

This project emphasized designing code in ways that can be reused in other parts/projects.

References

The textbook provided most of the information, but the cplusplus.com was used as well.

Misc. (extra things done, future improvements etc):

Maybe try to implement the priority round robin.