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CS 4348.005

Project 3

This is a very simple project with a very simple program, all it is, is a program that reads a text file with job inputs, and then creates a schedule for the processor based off those inputs. It first starts by reading a text file and recording the results into three separate global arrays. Then based on command line input, it executes one of, or all the 3 algorithms required by the project. I was able to create this program all within one file without having to use any additional object-oriented programming. The program then prints the results out onto the console standard output. The way that I got that to work was to store the results of the algorithms into an ‘executing’ integer array.

For the individual algorithms SRT was the easiest to implement because all I had to do was loop through the output array and fill it with the lowest value stored in the duration times array and then decrement that value. I didn’t even have to use a queue for this algorithm, just write a find minimum value function. Round Robin algorithm was a little difficult to get right, but I just basically created a queue that held the job positions, looped through the output array, adding new jobs to the queue and decrementing their duration time array value, popping the jobs from the queue and recording the result, and then adding the job back to the queue if the job wasn’t finished yet. Feedback was a similar implementation just with a hierarchy of queues. The feedback algorithm would loop through the output array and pop from the queue with the highest priority that wasn’t empty. New jobs would start automatically at the highest priority queue. If after popping from the queue, the job wasn’t finished yet, it would add that job to the next queue at a lower priority level.

Overall, this project was very fun because I got to use a creative implementation of each algorithm and it was very satisfying to see my results be printed out to the command line. This was a great class I really enjoyed the projects!