Project 4: CPU Scheduler

CECS 326: Operating Systems

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Contributions:

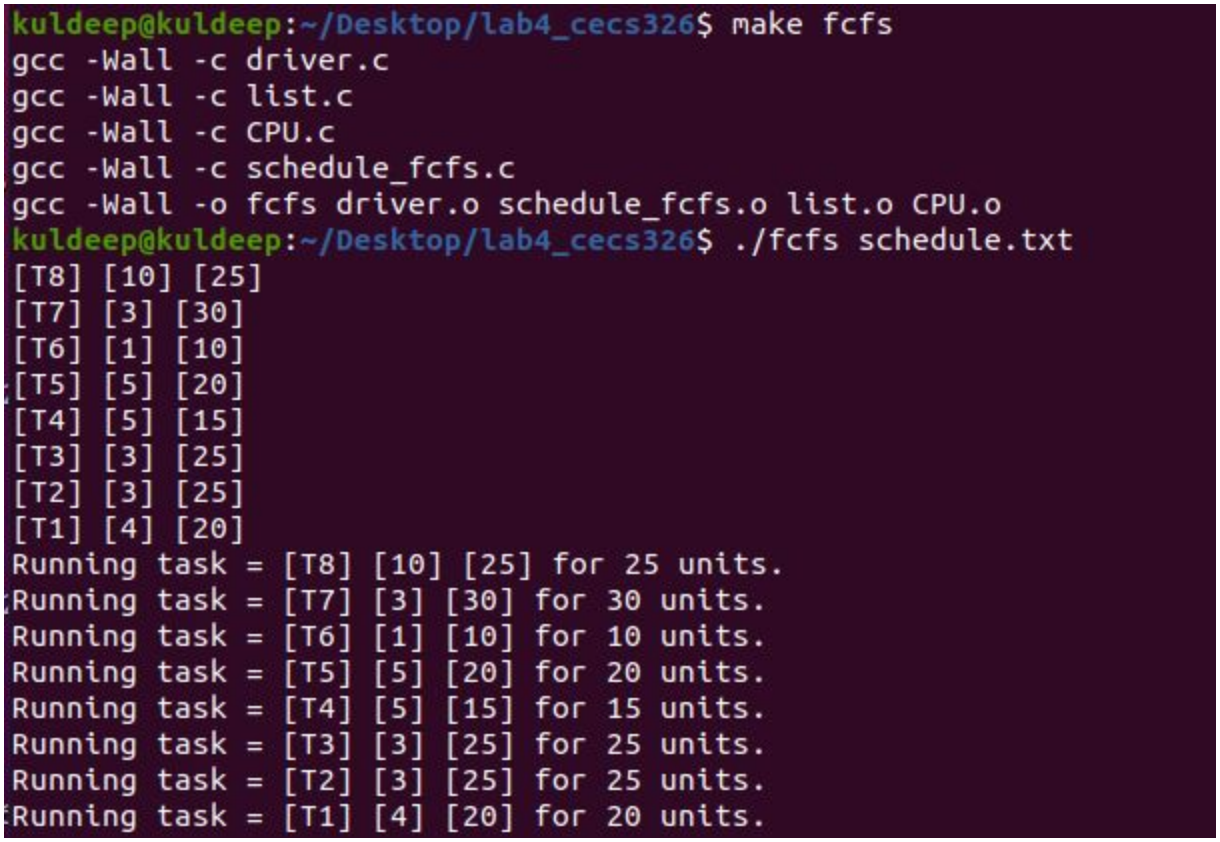
Sergio worked on the code, while I troubleshooted it and worked on the report.

Design of the Program:

For this project, we were asked to implement several different process scheduling algorithms. We used the schedule to assign a predefined set of tasks and scheduled the tasks based on the selected scheduling algorithm. Each of these tasks was assigned a priority and CPU burst. The scheduling algorithms implemented include first-come, first-served (FCFS), priority scheduling, and round-robin. First-come, first served scheduled tasks in order based on when they request CPU. Priority scheduling scheduled tasks based on priority. Round-robin scheduled each task to run for the remainder of their CPU burst.

Output:

First-Come, First-Serve Scheduling:



Round-Robin Scheduling:

```
kuldeep@kuldeep:~/Desktop/lab4_cecs326$ make rr
gcc -Wall -c schedule_rr.c
gcc -Wall -o rr driver.o schedule_rr.o list.o CPU.o
kuldeep@kuldeep:~/Desktop/lab4_cecs326$ ./rr schedule.txt
[T8] [10] [25]
[T7] [3] [30]
[T6] [1] [10]
[T5] [5] [20]
[T4] [5] [15]
[T3] [3] [25]
[T2] [3] [25]
[T1] [4] [20]
Running task = [T8] [10] [25] for 10 units.
Running task = [T7] [3] [30] for 10 units.
Running task = [T6] [1] [10] for 10 units.
task [T6] finished.
Running task = [T5] [5] [20] for 10 units.
Running task = [T4] [5] [15] for 10 units.
Running task = [T3] [3] [25] for 10 units.
Running task = [T2] [3] [25] for 10 units.
Running task = [T1] [4] [20] for 10 units.
Running task = [T8] [10] [15] for 10 units.
Running task = [T7] [3] [20] for 10 units.
Running task = [T5] [5] [10] for 10 units.
task [T5] finished.
Running task = [T4] [5] [5] for 5 units.
task [T4] finished.
Running task = [T3] [3] [15] for 10 units.
Running task = [T2] [3] [15] for 10 units.
Running task = [T1] [4] [10] for 10 units.
task [T1] finished.
Running task = [T8] [10] [5] for 5 units.
task [T8] finished.
Running task = [T7] [3] [10] for 10 units.
task [T7] finished.
Running task = [T3] [3] [5] for 5 units.
task [T3] finished.
Running task = [T2] [3] [5] for 5 units.
task [T2] finished.
```

Priority Scheduling: