CS 3413

Assignment 3

Due Date: September 25th, 2019 at 9:30 am

ASSIGNMENT IS TO BE COMPLETED INDIVIDUALLY BY ALL STUDENTS!

Solutions to the problem should be submitted via D2L. All solutions are to be written in C. All of the programs will receive their input via standard input and output via standard output.

Let's expand our model on scheduling to now actually use threads for each CPU! Using pthreads, modify your program from Assignment #2 to create one pthread per cpu that you specify. Each thread should act as a cpu and remove a job from the run queue and then `sleep()`[1] for 1 second to represent 1 unit of execution time for the task. Once it is completed sleeping then it will repeat and select the next task to execute for 1 second – which may be the same task! Be careful to protect your shared data by using locks to control access!

You are to add one more line to the program's output. After the summary of when people's jobs are completed you are to print the number of jobs that missed their deadline. That is jobs whose last execution was after the deadline that was specified. For example:

```
2 missed deadlines
```

[1] Look up "man sleep" to get a description of the sleep function.