1. The design approach for our project utilizes many data structures and algorithms. We created structs to initialize integers necessary for producing the proper running job and time outputs, align with the text from the given input file, run first-in-first-out and shortest-job-first scheduling, and allow for jobs to be released when they request resources or release the resources they held. We then used the round robin algorithm in our main file in order to schedule and print what the output shows.

2.

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

kareenakeswani@wifi-roaming-128-4-111-229 cisc361 % make clean
rm -f display.o queues.o main.o schedulesimulator
kareenakeswani@wifi-roaming-128-4-111-229 cisc361 % make
gcc -g -c -Wall display.c
gcc -g -c -Wall queues.c
gcc -g -c -Wall main.c
gcc -g display.o queues.o main.o -o schedulesimulator
kareenakeswani@wifi-roaming-128-4-111-229 cisc361 % ./schedulesimulator
Job 1 is running at time 0
Job 2 is running at time 1
Job 3 is running at time 2
Job 4 is running at time 3
Job 5 is running at time 4
Job 6 is running at time 5
Job 1 is running at time 6
Job 2 is running at time 7
Job 3 is running at time 8
Job 4 is running at time 9
Job 5 is running at time 10
Job 6 is running at time 11
Job 1 is running at time 12
Job 2 is running at time 13
Job 3 is running at time 14
Job 4 is running at time 15
Job 5 is running at time 16
Job 6 is running at time 17
Job 1 is running at time 18
Job 2 is running at time 19
Job 3 is running at time 20
Job 4 is running at time 21
Job 5 is running at time 22
Job 6 is running at time 23
Job 1 is running at time 24
Job 2 is running at time 25
Job 3 is running at time 26
Job 4 is running at time 27
Job 5 is running at time 28
Job 6 is running at time 29
Job 1 is running at time 30
Job 2 is running at time 31
Job 3 is running at time 32
Job 4 is running at time 33
Job 5 is running at time 34
Job 6 is running at time 35
Job 1 is running at time 36
Job 2 is running at time 37
Job 3 is running at time 38
Job 4 is running at time 39
Job 5 is running at time 40
Job 6 is running at time 41
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

Job 6 is running at time 41
Job 1 is running at time 42
Job 2 is running at time 43
Job 3 is running at time 44
Job 4 is running at time 45
Job 5 is running at time 46
Job 6 is running at time 47
Job 1 is running at time 48
Job 2 is running at time 49
Job 3 is running at time 50
Job 4 is running at time 51
Job 5 is running at time 52
Job 6 is running at time 53
Job 1 is running at time 54
Job 2 is running at time 55
Job 3 is running at time 56
Job 4 is running at time 57
Job 5 is running at time 58
Job 6 is running at time 59
Job 1 is running at time 60
Job 2 is running at time 61
Job 3 is running at time 62
Job 4 is running at time 63
Job 5 is running at time 64
Job 6 is running at time 65
Job 1 is running at time 66
Job 2 is running at time 67
Job 3 is running at time 68
Job 4 is running at time 69
Job 5 is running at time 70
Job 6 is running at time 71
Job 1 is running at time 72
Job 2 is running at time 73
Job 3 is running at time 74
Job 4 is running at time 75
Job 5 is running at time 76
Job 6 is running at time 77
Job 1 is running at time 78
Job 2 is running at time 79
Job 3 is running at time 80
Job 4 is running at time 81
Job 5 is running at time 82
Job 6 is running at time 83
Job 1 is running at time 84
Job 2 is running at time 85
Job 3 is running at time 86
Job 4 is running at time 87
Job 5 is running at time 88
Job 6 is running at time 89
Job 1 is running at time 90
```

```
Job 1 is running at time 90
Job 1 finished execution at time 91
Job 2 is running at time 91
Job 2 finished execution at time 92
Job 3 is running at time 92
Job 3 finished execution at time 93
Job 4 is running at time 93
Job 4 finished execution at time 94
Job 5 is running at time 94
Job 5 finished execution at time 95
Job 6 is running at time 95
Job 6 finished execution at time 96
kareenakeswani@wifi-roaming-128-4-111-229 cisc361 %
```

3. We learned how to simulate an operating system's tasks involving deadlock and CPU scheduling. We also learned the importance of communication and collaboration when working on a team. We can improve on avoiding procrastination and sticking to one method of communication, rather than switching between apps to reach one another. In the future, we would like to try to make the code more readable and efficient since there are some lines that could be condensed.