Assignment 3 - Report

2.1 Shortest Remaining Time First:

The output to workload 3

0: Arrival of Task 12 (ready queue length = 1)

0: Run Task 12 for duration 2 (ready queue length = 0)

1: Arrival of Task 13 (ready queue length = 1)

2: Arrival of Task 14 (ready queue length = 2)

2: IO wait for Task 12 for duration 1

2: Run Task 14 for duration 1 (ready queue length = 1)

3: Arrival of Task 15 (ready queue length = 2)

3: Wakeup of Task 12 (ready queue length = 3)

3: IO wait for Task 14 for duration 2

3: Run Task 12 for duration 2 (ready queue length = 2)

5: Wakeup of Task 14 (ready queue length = 3)

5: Run Task 14 for duration 1 (ready queue length = 2)

6: Run Task 15 for duration 2 (ready queue length = 1)

8: Run Task 15 for duration 1 (ready queue length = 1)

9: Run Task 13 for duration 2 (ready queue length = 0)

11: Run Task 13 for duration 2 (ready queue length = 0)

13: Run Task 13 for duration 2 (ready queue length = 0)

15: Run Task 13 for duration 1 (ready queue length = 0)

16: Stop

2.2 Multilevel Feedback Queue:

The output to workload 3

0: Arrival of Task 12 (ready queue length = 1)

0: Run Task 12 for duration 2 (ready queue length = 0)

1: Arrival of Task 13 (ready queue length = 1)

2: Arrival of Task 14 (ready queue length = 2)

2: IO wait for Task 12 for duration 1

2: Run Task 13 for duration 2 (ready queue length = 1)

3: Arrival of Task 15 (ready queue length = 2)

3: Wakeup of Task 12 (ready queue length = 3)

4: Run Task 14 for duration 1 (ready queue length = 3)

5: IO wait for Task 14 for duration 2

5: Run Task 15 for duration 2 (ready queue length = 2)

7: Wakeup of Task 14 (ready queue length = 3)

7: Run Task 12 for duration 2 (ready queue length = 3)

9: Run Task 14 for duration 1 (ready queue length = 2)

10: Run Task 13 for duration 4 (ready queue length = 1)

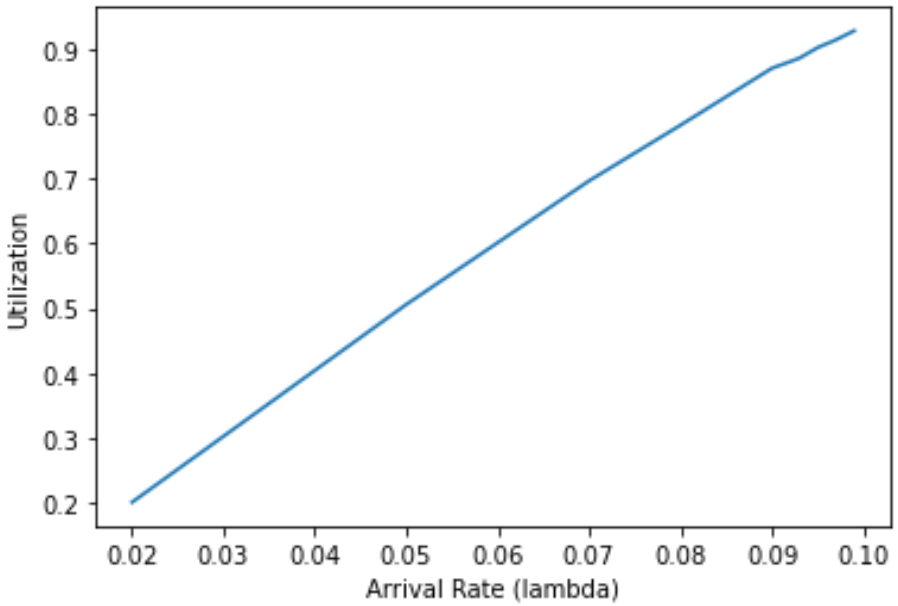
14: Run Task 15 for duration 1 (ready queue length = 1)

15: Run Task 13 for duration 1 (ready queue length = 0)

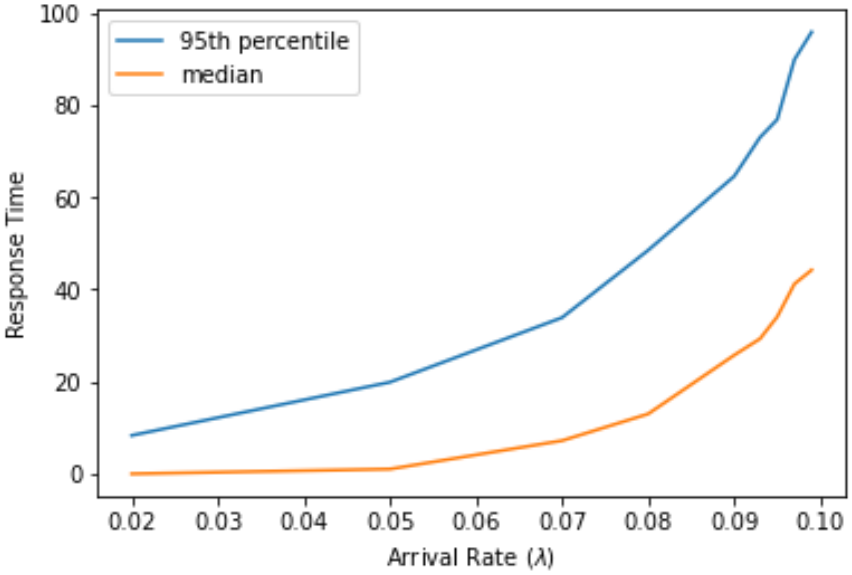
16: Stop

3 Approaching 100% Utilization:

The value of lambda for 50% utilization is approximately **0.05109.**



The graph of utilization vs arrival rate(lambda)



The graph of response time vs arrival rate(lambda)