

Programming Assignment #2  
Operating Systems 001  
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## Introduction

### Design/Implementation:

The team collaboration occurred with an initial kick-off meeting over zoom where the general design The project was discussed, going over the requirements and creating a solid plan moving forward. Over the course of the project we kept constant communication via “Zoom”, “GroupMe” and “Replit”.

In this project we are designing and implementing a “discrete-time event simulator” where the main goal is to test the different types of CPU Scheduling Algorithms and performance metrics. The three algorithms include First Come First Serve(FCFS), Shortest Job First(SJF), and Round Robin(RR). The project is broken down into multiple files including “scheduling.cpp”, “graph.py”, and “log.txt” this is a multi language implementation using python and c++. The program is broken down into different functions.

### **Breakdown of the project contribution**

Rosa Arlette Lucas - RR with custom, overview of report

Albert Soluz - RR, general formatting of program, tested on Linux server

Patrick Harris - FCFS, SJF, graph generation, instructions to compile section

## Compile:

### Instructions to compile:

### **To compile the Scheduling Algorithms Code:**

```
g++ -std=c++11 scheduling.cpp -o scheduling
```

### **To run the Scheduling Algorithms Code:**

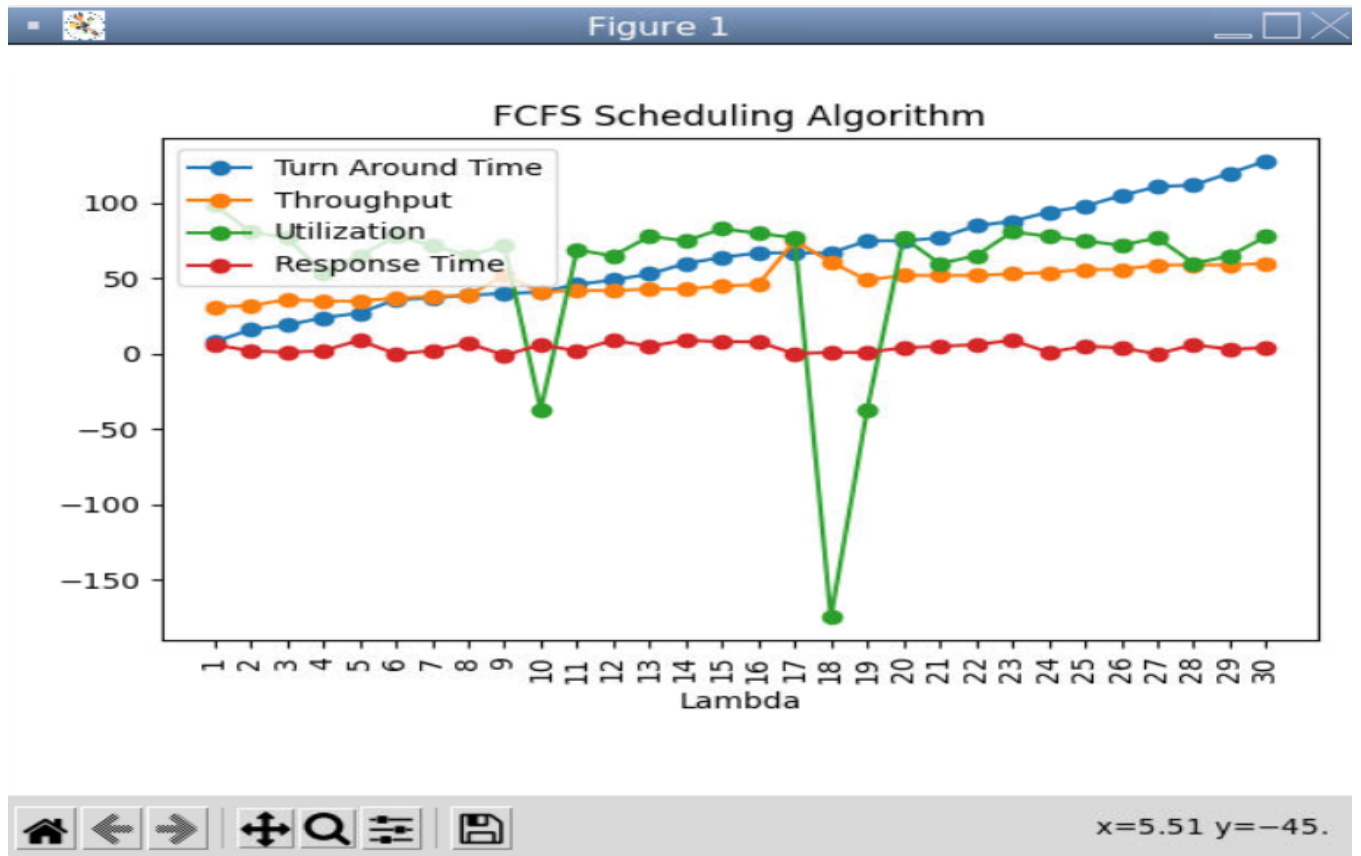
```
./scheduling
```

The program will prompt the user for certain parameters during runtime. Each algorithm will write the data collected to a log file in CSV format so that it can be used to graph.

## Final Results:

### Graphs:

The graph results show the throughput, turnaround time, cpu utilization, and the response time of each scheduling algorithm using python and matplotlib.



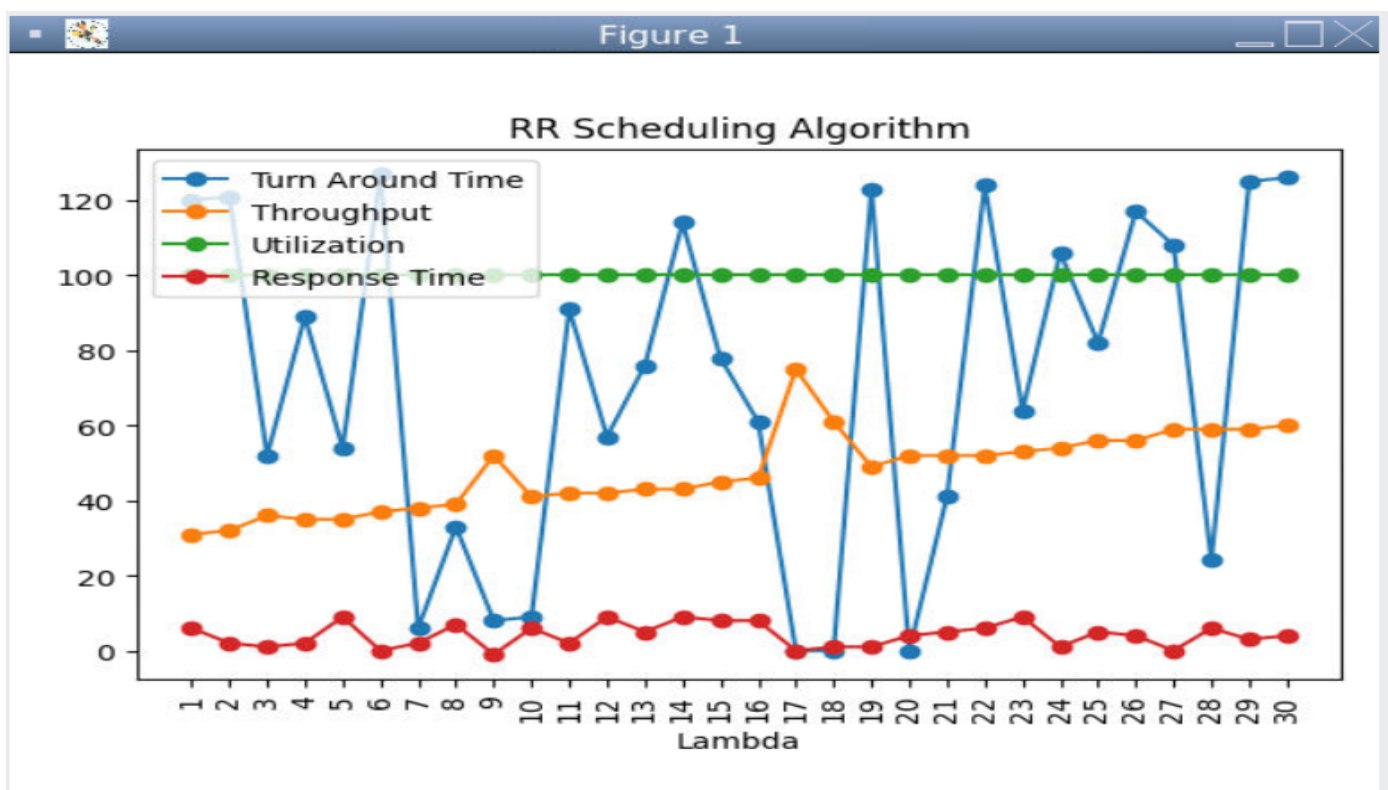
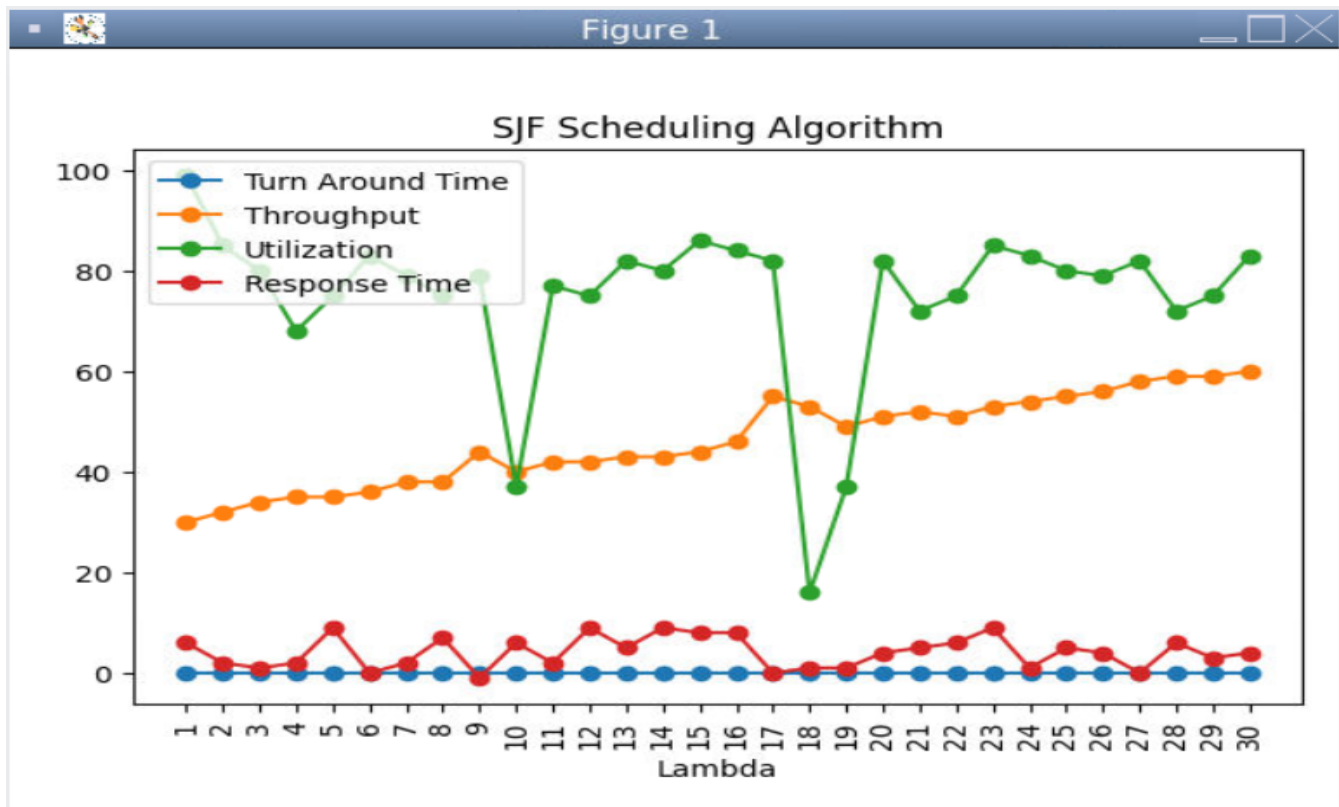


Figure 1

