**CS526 Project Assignment**

In this project, I have used two priority queues. The first one is priority queue D and the second one as mentioned in the requirements of this project is the system priority queue Q. Comparator interface is used to override the compare method to define the ordering in each of the priority queues. In the priority queue D, the processes are ordered by the arrival time of each process. In the priority Q, the processes are ordered by the priority of each process. Other than this, I used two array lists remove and added to store the process for which the priority had been updated. The remove array lists store the process with the old priority and the array list stored the same process with the new priority. These two array lists were then used to update the priority queue Q.

This project is a simplified version of how the processes are scheduled in a computer system. Although, this is a simplified version, it requires a lot of checks on the processes and the proper use of data structures to read the correct processes and to run them at the appropriate times based on their priority.

I learned a lot from this project specifically about the usage of java priority queue as a data structure. I also learned about how the comparator interface compare method is overridden to order a priority queue. This project has encouraged me in the use of data structures and how they can be implemented according to my own needs. New data structures can also be made based on other data structures to satisfy the needs.

I would like to thank the professor for teaching us the data structures in detail and teaching us how to manipulates these data structures to suit our needs.