

CPSC 1160: ASSIGNMENT 9[25 MARKS]

To Do

You will need to implement a Queue class that should have a template, so it can store any data type. You only need to implement a constructor, enqueue, dequeue and isEmpty.

Write a program called shopSim.cpp which will use the Queue class you have implemented. You should use Queue to simulate customers in a line up at a shop. A customer has the time it takes to serve them and the amount money the customer will spend. Your program should ask the user for how many cashiers are there. Each cashier will have their own line up or Queue. Your program should then ask the user for the name of the file they wish to run. The file that will have the following format, each line will have three numbers the first is the time the customers arrivals, the time it takes to serve the customer and amount the customer will spend. The customers will be in the order that they will arrival and two customers will never arrival at the same time. A customer will always go to the shortest line(the one with the least number of people in it) and a cashier can only help one customer at a time.

Sample output

```
What file would you like to run Test.txt
number of cashiers 3
total time 20
cashier 0 helped 3 customers and took in $22.2
cashier 1 helped 3 customers and took in $18.14
cashier 2 helped 1 customers and took in $4.5
```

To Submit

1) You should zip and submit all the h and cpp files that you wrote and the Makefile to compile them.