CS 315 Homework 5

Due Thursday, November 29, 2018 by 11:59 pm

Make sure that you have the three Java files that go with this homework, **MinHeap**, **PrintJob**, and **PrintSchedulingSimulation**.

You should already be familiar with MinHeap so start with the PrintJob class and try to understand what it does by running it individually and studying the code. The class is a simple model of a priority print job that will be sent to a printer.

Once you understand the PrintJob class switch over to the PrintSchedulingSimulation class and read the description of what it does at the top of the class. Then run the class and take a note of the results. Change some of the parameters to the runSimulation method and see how that affects the results. Then STUDY the code carefully.

Once you understand the code do the following:

Part A: (40% of grade)

Copy the file and rename the copy **PrintSchedulingSimulation2**. Then modify it so that you ask a user to enter the data for the simulation parameters, avgNumUnitsPerJobArrival, minTimeRequired, maxTimeRequired, and numIterations. Modify your code so that a user can run the simulation repeatedly until the user enters 0 for the number of simulations. Since you are asking the user for input make sure that the user cannot enter junk like non-positive integers of have minTimeRequired bigger than maxTimeRequired. Only run the simulation method if they give good parameters. Otherwise, let the loop iterate and ask them again.

Part B: (60% of grade)

Copy that file and rename the copy **PrintSchedulingSimulation3**. Now modify it so that the simulation pretends that there are two printers handling print jobs and jobs are sent to whichever printer is free at the time. Print the overall statistics as before but also print statistics related to each printer.

When you are done, zip up all the Java source files into one zip file and upload the zip onto Canvas.