Lab 5
CSCI232
Assignment due 10/9, at 11:30pm
Work alone – not with partners

Purpose: To understand priority queues and test out your program 1 with another data type

1. Programming: Create a program to read in the strings in manifesto.txt and use your cocktail sort to sort the words. Print out how many words are in the file and the time it took to sort them. Do this again using floating point numbers in reals. txt. (You could write one main program that would do both).
2. Do Not Program: Show the operations of insert() (inserting all the characters) in a Max priority queue using the following characters: [P R I O R I T Y] – show the binary heap (tree) with each call to insert and swim.
3. Do Not Program: Show the operations of delMax() (to remove the largest 3 characters) using the Max Priority Queue you developed in 2 above – show the binary heap (tree) with each call to delMax and sink. (This is not heap sort).
4.

Due: Wednesday, 10/9 at 11:30pm

Note: each person is to work individually. You can talk with those around you to do item 2 and 3 but I want to make sure everyone is writing programs on their own this time.

Submission You will submit the source files for main and cocktail for 1. For 2 and 3 write up your answers and submit to brightspace – either a picture or scan of your handwritten answer or a file from the computer. (Do not turn anything in to the TAs). Zip the files together and name them: <first/last name>.zip.

Rubric:

1. – 8 pts (3 pt each cocktail sort with sorting the words and then for sorting the floats)
2. – 7 pts (4 pts for showing work, 3 pts for correct trees for all the inserts/swims)
3. – 7 pts (4 pts for showing work, 3 pts for correct trees for all the calls to delMax/sink)