Lab 12 – CSCI 112

Due Date: Sunday, Nov 15 at 11:59pm EST

Information

- This lab is intended to be completed **individually.**
- The files must be submitted with the exact file name provided in this file. If the file names do not match you will receive **zero** points for that file.
- Before you submit, make sure that your code runs. Any code which does not run without errors will receive **zero** points.
- Do not share your work with anyone other than Professor Khan or the TAs. You may discuss algorithms, approaches, ideas, but **NOT** exact code.
- If you submit work after a second past the due date **WILL** be locked out from submission.

Review

Graphs: Briefly review the interface for the **`graph`**, **`vertex`**, and **`edge`** classes present in the modules folder. After you've completed the review run the files **`shorttest.py`**, and **longtest.py**, and observe their results.

Assignment

Task 1 – Creating a Graph [3 points]

In **`testGraph.py`**, create a graph by adding nodes and edge weights based on the graph.png file located in the zip.

Task 2 – Traversing Graphs [8 points]

Fill in the code for **`traverseFromVertex`**, **`depthFirstTraverse`**, and **`breadthFirstTraverse`**. Follow the suggestions for this approach as discussed in class. The **`showProcess`** parameter is a **`boolean`** indicating if the traversal should print the vertex's label while it is traversing.

Task 3 – Research [4 points]

Using a search engine, look up one real life application of graphs or any graph-based algorithm. In one paragraph, summarize your findings in within a file named **`graph_application.txt`.** Include this file in the zip archive for this lab.

What To Turn In

Create a zip file named **Lab12_<your W&L ID>.zip**. Inside this zip archive should submit all the original files as well as the ones you created/modified.