CSCI 310, Data Structures

Homework 07 – Graph Part 3 (*15 Points*)

Note: Homework assignments HW 03, HW 04, HW 07, HW 13, and HW 15 are all related. Each of these assignments builds on the previous assignment.

For this assignment additional methods have been added to the **Graph** interface. You are to revise your **StringGraph** class from Part 2 of the Graph assignment to implement these additional methods.

Details

1. Your class must still be named **StringGraph**.

2. It must implement the new **Graph** interface.

3. Your class should not have a **main** method.

4. You will need to use your **GraphException** class from part 1.

5. Your **StringGraph** class should use the same instance variables as in part 1.

6. Your class must implement all the methods specified in the **Graph** interface. See the [JavaDoc comments](#) for a description of each method.

7. Your class must include the **@Override** annotation for each interface methods it implements.

8. The [documentation](#) for the **StringGraph** class again includes some additional methods that not required by the **Graph** interface. These are included as _hints_ about methods you may wish to include in your class. You are not required to include these additional methods. You are only required to implement the methods specified in the Graph interface.

Tester Program

You are being provided with a new Tester program, called Graph_3_Tester.java. If your

StringGraph class is working correctly the tester will print a message indicating that all

tests were passed, otherwise error messages will be printed. The testers from parts 1 and
2 should still report no errors.

What to Turn In

Save all of the files for your program in a single folder, then create a zip file of that folder
and submit the zip file through Blackboard.

Your project should include the following files:

1. Graph.java – You should download this file and use it as-is. Make no changes to
   this file. Note that this is *not* the same file that was used in part 2.

2. Graph_3_Tester.java – You should download this file and use it as-is. Make no
   changes to this file.

3. TestResult.java – You should download this file and use it as-is. Make no changes
   to this file.

4. GraphUtils.java – You should download this file and use it as-is. Make no changes
   to this file.

5. GraphException.java – This is your file.

6. StringGraph.java – This is your file.