**Algorithms**

Fall 2018 Project Cover Letter

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Assignment: Graphs

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Total time on project: ~35hours

Programming language(s): Java

Is anything missing or not working correctly? Be specific.

From all my testing all my methods should be working correctly I haven’t seen any test cases that say otherwise.

Did you collaborate with any classmates on this project?

If yes, who was it, and what did you work together on?

No.

What resources and references, if any, did you use? Be specific.

Google for general questions such as syntax, Stack Overflow for compiling issues.

Any special notes about your project (assumptions about unusual data, clarifications on specifications, information on how to run the code, etc.)?

To run the code, simply double click the **run-project.cmd** which should compile all parts of the project and run the main program. After the program launches a gui will pop up asking to select a file. Navigate to where the project is save and go into the **tests** folder to select a test to run. Once the file is selected choose to either run it as an **Adjacency Matrix** or **Adjacency List** or both! You can select menu to go back to file select and you can select a different file to test. To view the logs printed by the program go into the **logs**. You will see the files with an added **(AM)** or **(AL)** specifying which data structure was used to produce those logs.

Any additional work (extra credit, fancy interfaces, etc.)?

I used javas swing library to create a file select gui which allows the user to navigate to the project folder and in the tests folder to select one of the files. Also, the gui will allow the user to pick either to use an Adjacency Matrix or Adjacency List.

Explain how you tested your project.

I tested my project by initially creating specific test case files testing certain functionality of the code. I have since lost those test files. After losing those test files I downloaded the test files uploaded to moodle by other class mates to test functionality.

What went well?

I wouldn’t exactly say anything went very “well” since I struggled on nearly every part of the project. But if I was to say if one thing went well was for my adjacency matrix my code is fairly clean and reads well.

What problems did you have?

The major issues I had were:

* Getting adjacency matrix to work with large files even though small files it worked just fine.
* IsConnected always returning either true or false.
* Incompatible types in my Adjacency List.
* The vertices count that I made global in both data structures aren’t being incremented and de incremented properly.
* Adjacency List print graph wasn’t printing to file as expected caught right before project submission and required a lot of experimentation to get working properly with only about an hour left to turn in project.
* Several classmates test files were not proper format and caused lots of issues leading me to look into my code and debug before realizing its not my code but their test files.

Any surprises?

Working with such a large project compared to my previous programs I was surprised with how much complexity this program continually gained.

Any remaining questions?

None.

Other comments on the project?

None.