Homework 9: Graphs

Due: See T-Square

Important

There are general homework guidelines you ust always follow. If you fail to follow any of the following guidelines you risk receiving a 0 for the entire assignment.

1. All submitted code must compile under JDK 7. This includes unused code, so don't submit extra files that don't compile. (Java is backwards compatible so if it comiles under JDK 6 it should compile under JDK 7.)
2. Do not include any package declarations in your classes.
3. Do not change any exiting class headers, constructors, or method signatures.
4. Do not add additional public methods when implementing an interface.
5. Do not use anything that would trivialize the assignment. (e.g. don't import/use `java.util.LinkedList` for a Linked List assignment. Ask if you are unsure.)
6. Always be very conscious of efficiency. Even if your method is to be $O(n)$, traversing the structure multiple times is considered non-efficient unless that is absolutely required (and that case is extremely rare). Traversing beyond your data and into unoccupied areas of the backing store is not-efficient and is not actually $O(n)$. See more discussion of Big O and efficiency below.
7. You must submit your source code, the `.java` files, not the compiled `.class` files.
8. After you submit your files redownload them and run them to make sure they are what you intended to submit. You are responsible if you submit the wrong files.

Graph

You will be implementing different graph search algorithms in this assignment, read the javadocs for descriptions on how you should take in the input and what you should return.

Syle and Formatting

It is important that your code is functional and is also written clearly and with good style. Efficiency also always matters. Be sure you are using the updated style checker located in T-Square-Resources. (It was updated on February 5, 2014.) Be sure to run your code against this latest style checker. While it is backward compatible with the original style checker, some style rules have been made easier to pass, so it is in your interest to update to this Feb 5 style checker file.) If you feel like what you wrote is in accordance with good style but still sets off the style off the style checker please email Kush Mansingh kmansingh3@gatech.edu with the subject header of "Style XML".

Javadocs

All public methods must have javadocs (or @Override's where appropriate). All private methods must be commented, but it is not necessarily that they be in javadoc style.

Provided

The follwing files have been provided to you:

1. `Structure.java`
2. `StructureStack.java`
3. `StuctureQueue.java`
4. `Pair.java`
5. `GraphSearch.java`
6. `CHeckStyle.zip` - see T-Square Resources for the latest file from February 5, 2014

Deliverables

You must submit all of the following files. Please make sure the filename matches the filenames below.

1. `GraphSearch.java`

Be sure you receive the confirmation email from T-Square, and then download your uploaded fiels to a new folder, copy over the interfaces, recompile, and run. It is your responsibility to re-test your submission and discover editing oddities, upload issues, etc. You may attach each file individually, or submit them in a zip archive.