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Question 1

Part A

1. SQuirreL SQL Client

source: https://git.code.sf.net/p/squirrel-sql/git squirrel-sql-git

1. According to its summary on SourceForge, “SQuirreL SQL Client is a graphical SQL client written in Java that will allow you to view the structure of a JDBC compliant database, browse the data in tables, issue SQL commands etc.”
2. It has 415,115 lines of java and 433,855 total lines.

This was calculated this using a program called SLOCCount. SLOCCount is a commonly used counting tool for GNU/Linux environments.

Part B

1. See attached paper
2. This tool appears to check file names for the names of design patterns. By searching file names and relying on the developers to choose descriptive file names, the tool surmises which design patterns might have been used.
3. In this case, the process is probably close to correct because SQuirreL SQL appears to use proper file naming conventions. A quick look at the source code confirms this intuition. How we would search for design patterns would be to use machine learning. Assuming our algorithm would have access to the code and not just the file names, we would train it to look for relationships between classes/interfaces that point to particular patterns. If, for example, a class had an instance field corresponding to an interface and that instance field was used to dynamically change the behavior of subclasses at runtime, we could train the algorithm to see the Strategy Pattern. By recognizing tell-tale relationships with machine learning, we could accurately gauge which patterns were being used in any given source code.

Question 2

* 1. 1) Already had GitHub account with username SocratesFolly.

2) Created new public repository, initialized with .gitignore and README, and added homework collaborators to the repository.

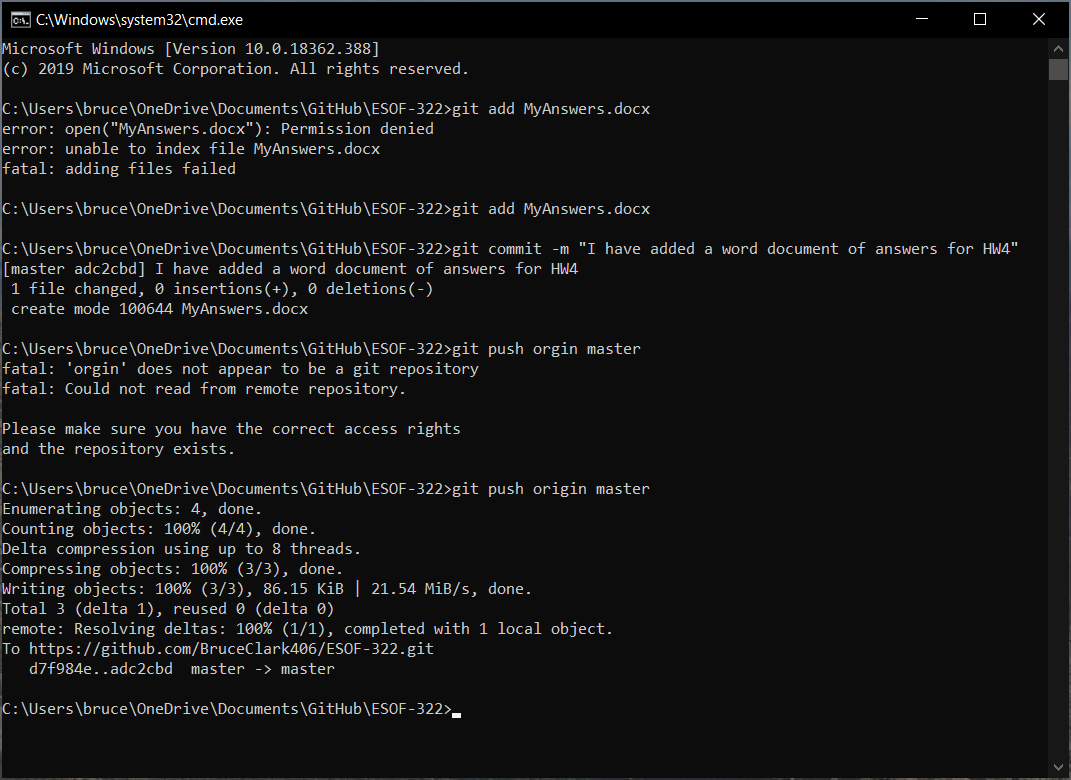
3) Cloned remote repository onto local machine with git clone <URL>

4) Created subdirectories for each homework assignment and copied files into their respective subdirectories.

5) Added and committed files to local repository with “git add” and “git commit”.

6) Pushed to GitHub with “git push”

* 1. (Although we will be using the repo at SocratesFolly’s (Ryan Cummings) page for current and future assignments, part b was done with Bruce’s GitHub account)

1. Added a file (MyAnswers.docx) to my local machine
   1. 
   2. add MyAnswers.docs
   3. git commit -m “I have added a word document do answers for HW4”
   4. git push origin master
   5. 