CS 1331 Homework 3

Due Thursday, January 31st, 2013 8:00pm

Introduction

This week the homework is designed to give you practice with conditionals, loops, and using a Scanner to read the contents of text files. Given a text file of questions, you will create a program that will go through the file and ask the user each question. You will also keep track of the user's score, which will be displayed to them at the end.

3.1 JavaQuiz.java

Your job is to create a program that poses questions to the user. Your program will read in these questions from the provided text file (questions.txt). The text file is formatted in such a way that each question is on a new line. The end of the question is marked by a " | " symbol, and the answer to that question is immediately after the symbol (look at the text file if you are confused about what this means).

Users will have an unlimited number of guesses for each question, but if they give up on a particular question, they should be able to skip that question by pressing 'q'.

Your program should keep track of the number of questions answered correctly by the user, the number of questions they have skipped, and the average guesses used for each questions that they answered correctly(guesses used on skipped questions should not factor in to the average).

Sample Output:

```
In Java, are Strings immutable(yes/no)?
yes
How many primitive types are there?
8
Java is _____, meaning that all variables must have a declared type.
hard
Incorrect. Please try again
strongly typed
What do you call a variable that cannot be changed?
immutable
Incorrect. Please try again
q
When a .java file is compiled, a .class file is created. What kind of code is
contained in that .class file?
bytecode
You got 4 questions correct.
You skipped 1 questions.
And for the questions you completed, you averaged 1.25 guesses.
```

3.2 HashtagCounter.java

For the second piece of this assignment, you are to create a program that has the ability to count the number of times that a given hashtag shows up in hashtags.csv. The .csv file represents hashtags that have been used by twitter users (we selected a list of programming oriented ones). The idea here is that a user will be able to enter a specific hashtag, and have the program output the number of times that hashtag is used.

CSV files are used frequently for data storage, so it is important to understand how they work early on. The Wikipedia article on CSV's is very useful if you do not know what exactly they are (http://en.wikipedia.org/wiki/Comma-separated_values). For this assignment, the rows represent individual days, and every value on the row is a hashtag that was used that day. We are not requiring you to do anything with the data from individual days, just the hashtags used overall, but when you learn more about ways to organize data you will be able to do a lot more with this type of information.

To reiterate, your program will prompt the user to enter a hashtag. It will then search through hashtags.csv and determine the number of times that the hashtag appears in the file. It will then display to the user the number of times the hashtag appeared, as well as the total number of hashtags in the file.

When run, the program should look something like this:

```
Please enter a hashtag
#java
The hashtag #java appears 6 time(s), out of a total of 75 entries
```

3.3 Conventions.java

For this part of the assignment, you simply have to correct the file conventions.java. The purpose of this is to help you get familiar with what good style is, and why it is so important. Correct all of the style problems in the file, and then write a short paragraph(in a block comment) that describes the problems found in the file, and why following coding conventions is so important.

Look at the style guide on T-Square or at the java documentation for proper coding conventions. Also, make sure that you always follow proper coding conventions in your homework.

Turn-in Procedure

Turn in the following files to T-Square. When you are ready, make sure that you have actually **submitted** your files, and not just saved them as a draft.

- JavaQuiz.java
- HashtagCounter.java
- Conventions.java

Note** Always submit .java files - never submit your .class files. And be 100% certain that the files you turn in compile and run - submissions that do not will receive an automatic 0. Also, make sure that your files are in on time; the real deadline is 8 pm. While you have until 2 am to get it turned in, we will not accept homework past 2 am for any reason. Don't wait until the last minute!

Verify the Success of Your HW Turn-in

Practice "safe submission"! Verify that your HW files were truly submitted correctly, the upload was successful, and that the files compile and run. It is solely your responsibility to turn in your homework and practice this safe submission safeguard.

1. After uploading the files to T-Square you should receive an email from T-Square listing the names of the files that were uploaded and received. If you do not get the confirmation email almost immediately, something is wrong with your HW submission and/or your email. Even receiving the email does not guarantee that you turned in exactly what you intended.
2. After submitting the files to T-Square, return to the Assignment menu option and this homework. It should show the submitted files.
3. Download copies of your submitted files from the T-Square Assignment page placing them in a new folder.
4. Recompile and test those exact files.
5. This helps guard against a few things.
   a. It helps insure that you turn in the correct files.
   b. It helps you realize if you omit a file or files. (If you do discover that you omitted a file, submit all of your files again, not just the missing one.)
   c. Helps find last minute causes of files not compiling and/or running.