Homework 0

This homework is intended to give you practice working with the process for preparing assignments and submitting them. Try to start this as soon as possible to allow the maximal amount of time to ask questions if you get stuck.

Objectives:

Task A. Set up development environment for Programming Assignments, which includes:

1. Local development (i.e. your laptop) for compiling and running Java code
   a. Choose your own text editor or IDE[i]
   b. Ensure Java compiler and Java runtime are installed on your machine[ii]
2. Making sure you have git version control installed on your machine[iii]
3. Create a GitHub.com account if you don't have one yet (instructions)

Task B. Practice workflow of submitting assignments through a form

1. Prepare a GitHub repo
   a. Create a new repository on github (instructions)
   b. If this is your first time syncing a repository between your machine and GitHub, you have to set up your SSH keys (instructions)
   c. Clone this repository from your machine to create a local copy (instructions)
   d. Log your changes by adding a file to stage, committing to the history, then pushing to sync with GitHub's copy (instructions)[iv]
2. Fill out the form to submit https://forms.gle/rwqqYB7AvqeYBCGq5

Task C. Sign up for Codelab account to complete coding exercises

1. Register for an account https://codelab.turingscraft.com/register/verify
2. Add the class with Section Access Code **`TCAB-30260-CLFG-53`**

Task D. Read textbook and complete exercises to be prepared for next week's class sessions

Chapter 1 https://greenteapress.com/thinkjava7/html/chapter-01.html

Below are some footnotes to give further information to the above points.

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[i] You can choose from many options; several are listed below for working with source files. The important thing for this class and any programming work is to be able to save a plain text file with the JAVA extension.

I favor using the most minimal approach, that is with plain text editors from the terminal (vim, emacs) or notepad++ if I want to use my mouse to navigate. This is all that you need to save files of the correct file extension. These are slightly more useful for a developer than a plain text editor (i.e. notepad), because you can view line numbers and configure indentation spacing.

Text editors:

- Notepad++ https://notepad-plus-plus.org/ (windows only)
- Atom: https://atom.io/
- Vim https://www.vim.org/
- Emacs https://www.gnu.org/software/emacs/

We will be creating Java packages for this class as that is a more advanced topic. While IDEs are favored by many students for working with packages of source file, it is too much for this class as it can steepen your learning curve to navigate the user interface with many features that won't be utilized.

- VS Code https://code.visualstudio.com/
- Intellij https://www.jetbrains.com/idea/
- Netbeans https://netbeans.apache.org/download/index.html

Finally, the textbook author offers instructions on using DrJava, which can be viewed as IDE-lite. Where it has all the useful features of an IDE but paired down for Java specific programming.

- DrJava http://www.drjava.org/

If you don't know which to pick, you can follow along with Appendix A
https://greenteapress.com/thinkjava7/html/appendix-a.html

[ii] From the terminal environment type `java -version` (See Appendix A.3 for a demonstration)

[iii] From the terminal environment type git –version
If you need to install Git, follow these instructions https://github.com/git-guides/install-git

[iv] In addition to GitHub's instructions, you may read the Pro Git book's chapter 2 section 2 on *Recording Changes to the Repository* (https://git-scm.com/book/en/v2/Git-Basics-Recording-Changes-to-the-Repository) to understand the significance of each command.