Data Structures and Algorithms, Spring '23 Dr. Hristescu
Lab 0

Assigned: before the beginning of the semester Due: **10:00pm Monday, January 23**

Pre-semester Required Prep Assignment (will be part of your first lab grade)

Every student registered for this class has to complete all the steps below before the first day of class:

1. Install the software from "Required platform and software" above.
2. Familiarize yourself with one of the two editors vi/vim or emacs (vim is a very simple editor, emacs is more sophisticated and offers a friendlier interface). Vi now automatically defaults to vim on elvis.
   vi(m): Quick Introduction to the vi editor Quick Introduction to the vim editor
   emacs: Quick Introduction to the emacs editor Comprehensive Emacs Manual
3. Using **MobaXterm** or **iTerm/terminal** log into your **elvis** account and in your **home directory** edit (with one of the native editors above) the **.bash_profile** file (example **vi .bash_profile**); add these lines and then replace "Your Name" with your name and update the section nr with 1 or 2. At any time while on elvis, to get to your home directory use the command **cd**
4. Either log out and log back in or source it with the command:
   source .bash_profile
   Future sessions will not require any explicit sourcing, since the sourcing is done automatically upon login.
   To check if makepdf is now in effect run the following command and check is it lists it:
   compgen -c| grep makepdf
5. Create a directory (folder) called DSA for this course in your home directory:
   - At the prompt type in the make directory command:
     mkdir DSA
   - Check that the directory is there by listing the content of the directory. At the prompt type in the command:
     ls
   - Change directory to your newly created directory, typing in the command:
     cd DSA
   - At the prompt type use the make directory command to create a directory called Lab0.
     mkdir Lab0
   - Change into your newly created Lab0 directory, typing in the command:
     cd Lab0
6. Place/edit in Lab0 a file called **Lab0Driver.java** that contains a Java solution for **any problem that you may find interesting** and for which **YOU have designed an efficient solution**. The problem can be any problem, like a problem you have solved before (maybe in IOOP or OOPDA or something that has interested you). The solution **HAS** to be **YOUR OWN** code, it CANNOT be something that you have taken from an external source (like the internet, a book, or another individual). The problem can be as simple or as complex as you wish. All methods (if more than just the **main** method) should be static methods --please review! Make sure your Lab0Driver.java contains this **required** header ←click. Format your code with astyle ←click using command **astyle --mode=java Lab0Driver.java**
   Test your program on your own designed input data and include a sample run (copy/paste from terminal window) in a text file called **Lab0Sampleruns.txt**. Summarize the status of your program and testing results in a file called **Lab0Status.txt** (see Instructions ←click for format).
   Place in a text file called **Lab0Conclusions.txt** the following 2 items:
   - A short description of the problem solved and a brief argument why your solution is **efficient**.
   - Using the information you received about this course, list the things that are important for being successful in this course. Use your own words (no cut-and-paste).

   Gather all the files (**in this EXACT order**) in a file named **allfiles.txt** using the command:
   more Lab0Status.txt Lab0Conclusions.txt Lab0Driver.java Lab0Sampleruns.txt > allfiles.txt
   Use the command:
   makepdf allfiles.txt

This will create (or overwrite if it already exists) a file named **yourloginnameSubmission.pdf** file. Check with ls.

Note that all files gathered in allfiles.txt **HAVE TO BE** text files (.java or .txt). There CANNOT be any .class or .pdf or .jpg or any other formats that are not text. Any inclusion of a non-text file will corrupt the **yourloginnameSubmission.pdf** file and Acrobat will not be able to open a corrupted file. It is your

responsibility to open the **yourloginnameSubmission.pdf** file and check that it can be opened and that it contains the necessary files BEFORE you submit the lab.

7. **This step is very important: Position yourself in the directory CONTAINING Lab0 using command**:
   cd ..
8. Run :
   ~hristescu/DSA/Labs/Process/submit intime
9. Take note of the displayed information. If something doesn't look right, fix and resubmit.
   Here are more detailed Instructions for all assignment submissions including labs.