

## Homework 3

cs1007 - Object-oriented programming and design in Java  
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**Programming Due:** Nov 27 11:59pm.

Theory:

In the last homework, you had to sketch out CRC cards and UML diagram for the family tree program.

You will now create the family tree graphical program, and then go back to update your UML Diagram. Please use a graphical program (example: violet) to create the diagram for submission as a graphic.

EXTRA CREDIT: a few paragraphs explaining how the UML diagram has been modified from the original and why. (Include this in the end of your README file.

### ***Programming:***

This is a very open ended assignment. You will create a graphical interface for the last lab assignment. You need to provide a way of building, viewing, and storing a family tree.

You need to provide the following functionality:

- 1) Save a family tree
  - a. The file format is totally up to you.
  - b. It needs to be able to correctly save the current family tree being created
  - c. You need to be able to specify a name when saving (although should be able to use a default).
- 2) Load a family tree
  - a. Again this is your own format
  - b. You should be able to specify a name
- 3) Add new person
  - a. The information is inputted by the user.
- 4) README file specifying how to run your program and description of all the files provided
- 5) A sample family tree saved in your own format....it should have at least 7 members
- 6) The ability of viewing the information associated with any member
- 7) EXTRA CREDIT: add some cool feature which is not required. Example: ability to search the family tree.

Hint: Start Early (no need to do this over thanksgiving weekend) and have fun!!!

Real Hints: Because this is not a graphics course, I am providing some hints on using java's graphic libraries. Please stop by office hours or contact myself or the TA's for help if you seem to be getting stuck (this applies when you start early). And don't copy/paste the code....understand what it is that your are programming.

**HINT "Getting a filename from the user:"** a very easy way to get the filename from the user in a graphical form is the following:

```
String filename = (String) JOptionPane.showInputDialog(
    ????, //replace this ...see API with what.
    "Enter name of file to save family tree.",
    "Filename", JOptionPane.PLAIN_MESSAGE, null, null,
    "default.dat");

if(filename!=null){ ... }
```

Hint "**Showing the family tree**" one (and I stress only one) way of easily displaying the family tree is to use a JTree component. For example if you create a JPanel, and set the layoutmanager as BorderLayout, you can place a JPanel with all the buttons in the north, then the JTree in the center, and then something in the south to show more information (when you click on a particular person in the JTree).

Please take a look at :

<http://www.apl.jhu.edu/~hall/java/Swing-Tutorial/Swing-Tutorial-JTree.html>