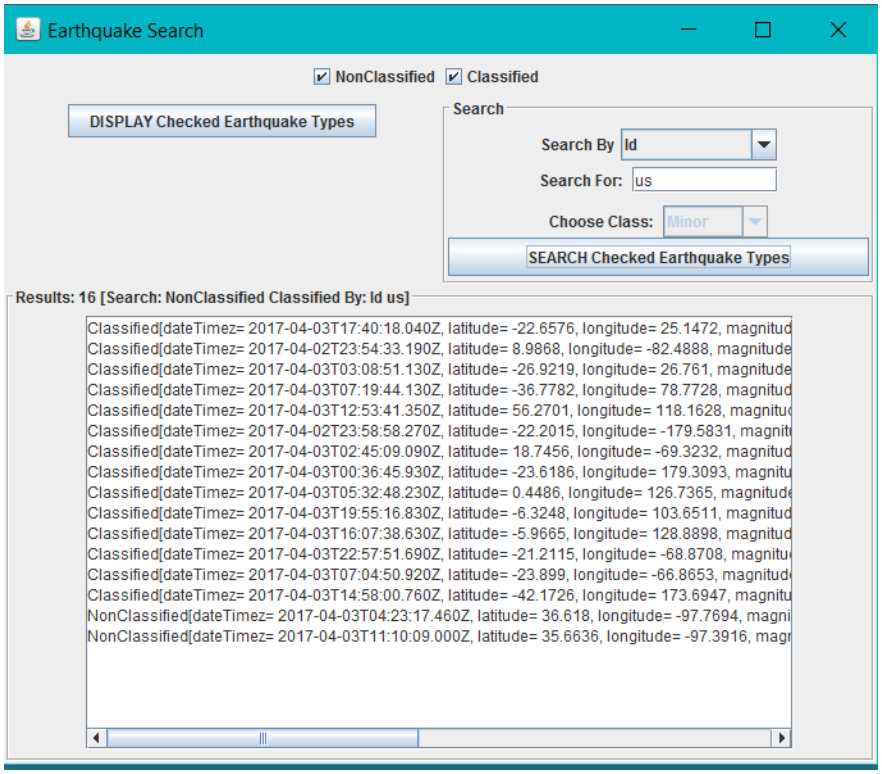
ACO 102 Object-Oriented Programming
Comprehensive Programming Assignment
Phase 2 Due: start of class Thursday, 27 April 2017

In this comprehensive programming assignment, you will combine the various components of the Java programming language that you learned this semester:

- Inheritance, Interfaces, Abstract Classes (Ch 9)
- File Processing, Exception Handling, Command line arguments (Ch 7)
- Graphical User Interfaces (Ch 10-11)

Phase 1 combined all of the above features except for Graphical User Interfaces (GUI). Using the solution to Phase 1, you are to build a GUI as shown below:



GUI Requirements: ♪ A jar file will be provided for Phase 1!

- Check boxes: Selection of the check boxes determines which earthquakes are displayed or searched.
- Search Panel: For the selected Search By category from the combo box, search the checked earthquakes; display in Results area in sorted order.
    - Id, Place, Year**:** Use the Search For value and disable the Choose Class ComboBox.
    - Magnitude Class**:** Use the Choose Class ComboBox and disable the Search For TextField.
- Validation*: Check the following situations and use a popup to alert the user.*
    - The user does not check any earthquakes.
    - The user must enter a Search For value for Id, Place, Year.
    - The user enters a valid year for searching.
    - The user is searching for a magnitude class and has not checked Classified.
- Title the frame, the search panel and results panel.
- Results panel must be scrollable, displaying the toString of the Earthquake. The Results title must be updated to include the count of the number of items in the results area and what it is displaying.
- *NOTE: Clicking any component should clear out the Results area!*

- ***File Summary***

File	Overview	Description
EarthquakeFrame.java	GUI	Implement per instructions
Phase 1 Class Files to be reused or revised with rename:		
EarthquakeViewer	main	handles command-line argument for valid input; revises EarthquakeTester from Ph 1 to EarthquakeViewer, passing valid ArrayList of earthquakes to constructor of EarthquakeFrame
Earthquake	abstract superclass	implements Comparable to sort earthquakes in magnitude order – largest first; contains common earthquake attributes; provides accessor methods for instance variables
NonClassified Classified	subclasses of Earthquake	see Phase 1

On the due date, you will turn in the following:

1. A hard copy of your .java files: Make sure that the listing includes your name and class as a comment line in your .java files.
2. A printout of the compilation and execution of your program. (You can copy the contents of the output window of NetBeans.)
3. An electronic copy of your .java files must be turned in through the assignment facility.

NOTE: Only programs that successfully compile will be considered for assessment.

- ***Your program must adhere to the UML specification***
- ***Your javadoc comments must be correct and complete and successfully generate an HTML document without warnings.***

Incremental Development Suggestions:

1. Implement the EarthquakeFrame.java to include all of the components shown, matching the display exactly (within a reasonable amount of white space).
2. Implement the DISPLAY button.
3. Implement each SEARCH – one by one: Id, Place, Year, Magnitude Class

NOTE: Your EarthquakeFrame.java MUST work with the provided jar file.

REMINDER: THIS IS AN INDIVIDUAL ASSIGNMENT!