CS 251: Lab 10: Java: Eclipse IDE, Swing GUI (Inlab)

- Handed out: 10/12 Due: 10/12 4.45pm

- Please write (only if true) the honor code. If you used any source (person or thing) explicitly state it. You can find the honor code on the web page.

Overview

In this lab we will use Eclipse, a very popular integrated development environment (IDE). An IDE normally consists of a source code editor, build automation tools and a debugger. Most modern IDEs have intelligent code completion. Using Eclipse, we will build a Graphical User Interface (GUI) for a very simple application.

Pre-tasks

For swing, look up `http://www.javatpoint.com/java-swing` to learn about Java Swing.

The Tasks

We will create a very basic GUI application using the Swing Library in Java and Eclipse.

1. [`Warmup`] We are just going to take some existing code and import it to Eclipse.

   (a) Download `basicgui.zip` (called archive in Eclipse terminology) from the usual resources directory.

   (b) Start Eclipse, go to `File->Import->General->Existing  Projects Into Workspace` (Note: Do not get confused by any text other than "Existing ..."

   (c) After the previous step, you will be in the "Import Project" section. Now select the archive file option, and browse to the downloaded zip file and click "Finish".

   (d) You now have a project named BasicGUI in your workspace (Take care that you don't have any project by that name in your workspace from earlier).

   (e) Now when you run BasicGUI it will fail. This means there is a runtime error in project. Find the error and rectify it. Look at the console, it may be helpful. Also try using the `Run -> Debug` option so that you can drop directly into the location of the problem.

   (f) After fixing the error, run the project and see the output of the program

   (g) Mention the error and output on running the program in your readme

   (h) Export your project as an archive to `myBasicGui.zip`. This file should work "out of the box" when the grading TAs imports this file into their Eclipse workspace. However make sure that the bin subdirectory is not submitted.

   Do this before proceeding to the next task.

2. [`Simple GUI`] In the previous step we saw a previously built "basic"gui. Now we will create a simple gui using InputBoxes and Buttons.

   (a) Download the jar file `run.jar` from resources

(b) Run the file from the command line in a terminal. How does one run given a jar file? (Note: You can "unzip" a jar file just like a zip file).

(c) Your task is to emulate the behaviour of this application. Do study the behaviour of given jar by pressing various buttons and exploring how it is working.

(d) Create a `SimpleGui` class in the default package. It must have a main function. You should use the code of Q1 and build over it (but first export it for Question 1, and **then** start overwriting).

(e) Export your project to `mySimpleGui.zip`. This file should work "out of the box" when the grading TAs imports this file into their Eclipse workspace. However make sure that the bin subdirectory is not submitted.

What to Submit

Include the zip files of the tasks in separate folders called q1 and q2 (both of which will contain zip files). Don't call it Question 1 or Question-1 or ...

Put everything in a folder. The folder and its compressed version should both be named `lab10_groupXY_inlab`. Hence, you submit a tar.gz named `lab10_group07_inlab.tar.gz` if your group number is 7.