

Lab 1: Java Revision – Sticky Notes

Aim

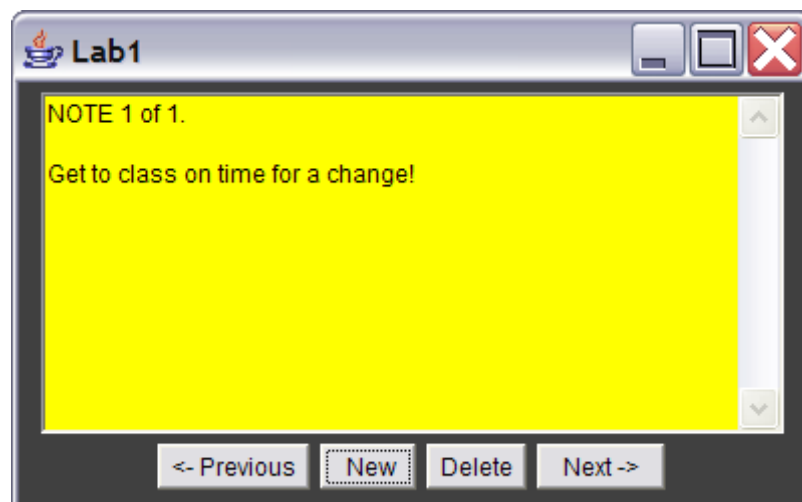
This lab class will provide you with an opportunity to refresh your Java programming skills and in particular:

- see how *VS Code*^{*} or *DrJava*[†] can be used with multiple source files;
- work on a 'project' containing a harness class (`Lab1.java`), an organiser class (`Lab1Frame.java`), and a library class (`StickyNotePad.java`);
- implement a class that contains an interactive graphical user interface; and
- write software that manipulates an array of `Strings`.

Context

The context for the exercise is a computerised pad of sticky notes. A pad of sticky notes can contain 0 or more notes. Each note can have something written on it and only one of the notes is visible at any time. A new note may be created, the current note may be deleted, or the user may move backwards to the previous note or forwards to the next note.

When completed, the lab class will provide a computerised sticky note pad that should look like the following:



^{*} *VS Code* is free and downloadable from https://code.visualstudio.com/docs/languages/java#_install-visual-studio-code-for-java.

[†] *DrJava* is free and downloadable from <http://www.drjava.org/download.shtml>.

These are installed in our labs but you can use any IDE. You can even do your coding in a web browser: <https://repl.it/>. If you want to use that, please try to register (it's free) before your tutorial starts.

Tasks

1. Copy the three program files from *MyLO* to your computer and open them all in the IDE of your choice. If you are unsure how to do this, look at the bottom half of the following page.
2. Examine the files to investigate what they do. This project contains a default harness (`Lab1.java`) and partially complete organiser class (`Lab1Frame.java`) and library class (`StickyNotePad.java`). The harness requires no modification for this exercise but the organiser and library classes need to be completed as indicated below.
3. Examine the contents of `Lab1Frame.java`. Make the following changes:
 - a) Replace the comment `/**1` with code to instantiate a `StickyNotePad` object capable of storing 10 notes and have the variable `snp` refer to that newly created object.
 - b) Replace the comment `/**2` with code to advance the pad to the next note.
4. Examine the contents of `StickyNotePad.java`. Most methods contain comments which explain the algorithm and indicate what the code should do – but there is no code. Using these comments as a guide, implement all the methods in the `StickyNotePad` class.
5. Compile and run the project (removing any errors you may find) and experiment with the sticky note pad application.

Notes

- In *VS Code*
 - *VS Code* is just an editor. You have to install the Coding Pack for Java which will include the JDK.
 - You may need to open the application and then open the files from within the application, i.e. double-clicking the file may not work.
- In *DrJava*
 - You may need to open the application and then open the files from within the application, i.e. double-clicking the file may not work.
 - You can only click “**Run**” when `Lab1.java` (the harness class) is selected.
- In *replit*
 - A free account creates public projects. If you use this for assessment task development, store them on your hard drive and re-create them – with a nonsense unrelated name when you do your development.
 - You must have a file called `Main.java`. So just copy the contents of `main()` from `Lab1.java` into `Main.java`.