

CSC108H lab – week 2

This document contains the instructions for the week 2 CSC108H lab. To earn your lab mark, you must actively participate in the lab. *You don't need to finish in the time allotted, you just need to try hard.* (In fact, it's extremely unlikely that you will finish this one; it's quite long.)

Please give this handout back to your TA. We use the same set of lab handouts throughout the week to save paper. We will be posting each handout at the end of each week.

Here is the rough schedule:

1. Icebreaker (getting to know everyone, picking a partner)
2. Using the CDFPC computers
3. Using DrJava, playing with JFrames

1 Icebreaker

Your TA will tell you what to do.

2 Using the CDFPC computers

Sit down with your partner. The rest of these instructions call you two **s1** and **s2**. Pick which one is which. Repeat the following set of instructions twice, once for **s1** and once for **s2**.

1. Enter your user ID and password. Wait while the computer starts up.
2. Double-click the DrJava icon. Wait while DrJava starts up; please be patient, and don't close the little window that pops up.
3. We will sometimes email information to everyone's CSC108H account. Unless this will be your primary email account, you should set up "email forwarding". In the large right-hand pane, type your email address.
4. Select File—Save. A dialog box will appear. In the text field labelled "File Name:", type ".forward". Then select directory "H:" in the "Save In:" drop-down menu, and click the Save button.
5. Quit DrJava and log out.

3 Using DrJava, playing with JFrames

Below, we use the terms *driver* and *navigator*. Here are the definitions of the two roles:

driver: The person typing at the keyboard.

navigator: The person watching for mistakes, and thinking ahead.

And here is the most important rule for this lab:

The navigator must not touch the keyboard. If the navigator does type when they are not supposed to, the navigator will get a zero for this lab.

3.1 Trying JFrame

s1 should now log in again. Throughout the lab, you'll be switching back and forth between the driver and navigator roles.

In lecture you learned about ints and doubles, variables, and how to create and manipulate JFrame. In this lab you and your partner will experiment with those concepts.

- Create a couple JFrame variables and try calling the methods you saw in class:

| | |
|----------|-----------|
| show | getWidth |
| setSize | getHeight |
| setTitle | |

- Discuss the syntactic and semantic differences between the methods in the left column and the methods in the right column. Make a *brief* list of the differences you can think of and show it to your TA.

3.2 Positioning JFrame

- Switch roles: s2 drives and s1 navigates.
- Reset the Interactions pane.
- Create and initialize four JFrame variables, and show them.
- Make windows 1 and 3 100x200 pixels, and windows 2 and 4 200x100 pixels.

Which coordinate comes first, horizontal or vertical? Check your answer by calling getWidth and getHeight on one of the JFrame.

3.3 Working with the screen size.

Each JFrame has a method setLocation(x,y) that moves the upper left corner of the JFrame to the pixel with coordinates (x,y).

- Switch roles: s1 drives and s2 navigates.
- Reset the Interactions pane.
- Move the first window up against the left-hand side of the screen, about halfway down, using setLocation.
- Move the second one up against the top of the screen, about halfway down, using setLocation.
- The screen size is 1024x768. Figure out how to move the third window flush against the right-hand side of the screen directly opposite the first window, and the fourth window flush against the bottom of the screen directly below the second window.

3.4 Spelling with JFrames

- Switch roles: `s2` drives and `s1` navigates.
- Reset the Interactions pane.
- Write down `s1`'s initials.
- Use JFrames to spell the initials on the screen.

Show your JFrames and your Interactions pane to your TA.