

CSC108H lab – week 9

This document contains the instructions for the week 9 CSC108H lab.

1 Objectives

1. Practice with arrays.
2. Work out some simple geometry problems.
3. Work with Javadoc.
4. Practice writing more loops.

2 Icebreaker

Pick a new partner.

3 Arrays of JFrames

Write a class called `JFrameList` that has a single `JFrame[]` instance variable. The constructor should take the size of the array as a parameter, and should also fill the array with `JFrames`. Make each `JFrame` 150x150.

Write a `showAll` method that shows all the `JFrames`.

Compile it and test it from the Interactions Pane.

Switch roles: the navigator becomes the driver and the driver becomes the navigator.

As you saw in week 3, the following code retrieves the screen width and height:

```
Dimension d = Toolkit.getDefaultToolkit().getScreenSize();
int screenWidth = (int) d.getWidth();
int screenHeight = (int) d.getHeight();
```

Write a `displayDownRight` method that sets the location of all the `JFrames` so that they are spread evenly from top left to bottom right. Put the first `JFrame` at (0, 0) and the last `JFrame` so that its bottom right corner is touching the bottom right corner of the screen.

Compile it and test it from the Interactions Pane.

Switch roles: the navigator becomes the driver and the driver becomes the navigator.

Write a `displayDownLeft` method that sets the location of all the `JFrames` so that they are spread evenly from top right to bottom left.

Compile it and test it from the Interactions Pane.

4 JavaDoc!

In this section, you'll see JavaDoc in action. Download `Lab9.java` from:
<http://www.cs.toronto.edu/~campbell/108/05w/labs.shtml>

Run Javadoc on `Lab9.java`: click the Javadoc button. This will generate a web page and should open up your browser.

Scroll down to the bottom of the HTML page. Notice that, for example, `mostSpaces` lists both **Parameters:** and **Returns:**.

Switch navigator and driver.

Now open `Lab9.java` in DrJava. Look at the Javadoc comments to find out how the **Parameters:** and **Returns:** sections are made. What are the two comment tags that produce them?

5 Loops!

Complete as many of the methods in `Lab9.java` as you can, alternating driver and navigator for each one. Warning: you may not get more than two or three of them done. **Don't rush:** make sure you understand what you do get done. Don't hurry your partner through these!

You can practice them over the weekend, or before the final exam, of course.

For each method, use exactly one `while` statement. You may not use `do-while`, `for`, `break` or `continue` statements. (Why? Because we will have you write `while` loops on the final and we want to get you to practice them.)

Also, you may use only one `return` statement in any method.

In any code that you write, you may use only these `String` methods: `equals`, `substring` and `length`. You must not use any other methods from `String`.