

Lab 2 Report

Simon Eskin, Curtis Li, Trevor Swan

1. `import javax.swing.JFrame;` → nothing yet
`JFrame j1 = new JFrame();` → nothing yet
`j1.setVisible(true);` → opened a tab of Dr. Java
`j1.setSize(200,400);` → changed the tab to 200x400 window
`j1.setLocation(500,500);` → changed the window location to specific location on screen
2.
 - a. The three methods on the left, which all are named “set” require arguments or inputs to function, while the ones on the right, which are named “get” do not need arguments.
 - b. The ones in the left column change the object, but the ones in the right column return values about the object.
3.

```
> import javax.swing.JFrame;  
> JFrame j1 = new JFrame();  
> JFrame j2 = new JFrame();  
> j1.setVisible();  
> j1.setVisible(true);  
> j2.setVisible(true);  
> j1.setSize(300,200);  
> int w = j1.getWidth();  
> int h = j1.getHeight();  
> j2.setSize(w, h);
```
4.

```
> j1.setLocation(810,0);  
> j2.setLocation(810, 1000);
```
5.
 - a. `Math.sqrt(Math.pow(2.0,2.0))`
`Math.pow(Math.sqrt(2.0),2.0)`

The second expression evaluates to 2.0000000000000004, which is not equal to the 2 produced by the first expression. This is because the computer can only store a certain number of digits in its memory for the `sqrt(2)` value. This value is irrational, so when the computer goes to compute the next value, it is squaring a truncated version of the square root of two, leading to an imprecise answer.

- b. `Math.sqrt(1.0-(Math.pow(0.5,2.0)))`

To check: `Math.pow(0.8660254037844386,2.0)`

```
6. > import javax.swing.JFrame;
   > JFrame j3 = new JFrame();
   > JFrame j4 = new JFrame();
   > j3.setVisible(true);
   > j4.setVisible(true);
   > j3.setSize(800,200);
   > j4.setSize((int)Math.sqrt((j3.getHeight())*(j3.getWidth())),(int)Math.sqrt((j3.getHeight()
)*(j3.getWidth())));
```