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mqlogo.jpeg *Department of Computing* **COMP125 Fundamentals of Computer Science** **Workshop - Introduction**

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### **\*Learning outcomes**

Most of you have done COMP115 at Macquarie with Processing as the programming language and environment. We will revise some of the basics of programming learnt in COMP115. Also, in COMP125, Java is the programming language and Eclipse is the environment. Following are this week's learning outcomes,

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\*15 minutes: introductions

a. \*

\*10 minutes: be ready to use the lab computers (setup accounts and iLearn)

b. \*

\*50 minutes: revise COMP115/WCOM115 topics

c. \*

\*20 minutes: create a simple java program in Eclipse and under

d. \*

\*15 minutes: import a java project in Eclipse

e. \*

**\*Access your account**

To log on to the lab machines, first make sure the machine is powered on. Enter your username (OneID) and password in the appropriate entry boxes. Please note that if you have already accessed the labs, your username and password are the same as in the previous semester, and if are accessing the labs for the first time, you should have the required information from enrolment/ orientation session. If you do not have this information, please ask the tutor to assist you.

Once you login to the computer, make sure you have access to COMP125 homepage in iLearn. If not, please ask the tutor to assist you.

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\***COMP115/WCOM115Revision**

1. \*  
\*What is the value of result when the following code is executed?

```
*
*1 int result = 12/5;
```

**Solution:** 2 (integer/integer = integer)

2. \*  
\*What is the value of result when the following code is executed?

```
*
*1 float result = 12/5;
```

**Solution:** 2.0 (integer/integer = integer, and then that integer (2) is copied into a float)

3. \*  
\*What is the value of result when the following code is executed?

```
*
*1 float result = 12.0/5;
```

**Solution:** 2.4 (float/integer = float (2.4), and then that float (2.4) is copied into a float)

4. \*  
\*Consider the following code:

```
*
*1 size(300, 200);
*2 background(255);
*3 int x = (int) random(width);
*4 int y = (int) random(height);
*5 if(x < width/2) {
*6     if(y < height/2) {
*7         line(0, 0, x, y);
*8     }
*9     else {
*10         ellipse(x, y, 20, 20);
*11     }
*12 }
*13 else {
*14     if(y < height/2) {
*15         rect(x, y, 20, 20);
*16     }
*17     else {
*18         triangle(x, 0, x, y, 0, y);
*19     }
*20 }
```

Give 4 samples of (x, y) pairs, such that for each pair a different shape is drawn. Also state which shape is drawn for which (x, y) pair.

**Solution:**

5: (20, 20): line

- (20, 120): ellipse (circle)
- (180, 20): rectangle
- (180, 120): triangle

- \*  
\*What is the value of result when the following code is executed?

```
*
*1 int result = 1;
*2 for(i = 0; i < 4; i++)
*3     result = result * 2;
*4 }
```

**Solution:**  
16 (loop executes four times, for i = 0, 1, 2, 3 and each time result doubles).