University of Stirling   Computing Science and Mathematics

CSCU9A1   Autumn 2016

Tutorial 1

Some of the questions below are based on the review exercises in Chapter 1 of Java for Everyone.

1. What computer do you have? What is its specification, and what does it mean? As an example, consider the new MacBook Air: it has

    11.6-inch (diagonal) high-resolution LED-backlit glossy widescreen display with support for millions of colors, and for resolutions: 1366 x 768 (native) at 16:9 ratio, 1152 x 720 pixels and 1024 x 640 at 16:10 ratio, and 1024 x 768 and 800 x 600 at 4:3 ratio.

    64 or 138Gbyte flash storage, 1.7GHz dual-core Intel Core i5 processor, with 3MByte shared L3 cache, 4 to 8Gbyte main memory, two USB 3 ports, and includes MacOSX 10.8.

    What does the above specification mean to the naïve user? What does it mean in terms of executing instructions?

2. Explain the difference between using a computer program and programming a computer.

3. Discuss the benefits of using a high level language like Java over machine code.

4. What is the *Java Virtual Machine*? How does the virtual machine make Java programs more *portable* than programs written in older languages like C?

5. Describe what happens when your Java program is *compiled*.

6. Describe the benefits of using an IDE such as BlueJ over using a text editor and the Command Prompt to develop Java programs. Can you think of any disadvantages of using an IDE?

7. What is the difference between a compile-time error and a run-time error? How many of each kind of error can you spot in the program below? Point them out.

```
1   public class Greeting
2   {
3      public static void main (String[] args)
4      {
5          System.out.println("Hello, World!);
6          System.out.print("My name is");
7          System.out.prinln("R2D2");
8          System.out.print("My age is");
9          System.out.println(11 / (5 - 2 - 3))
10     }
11  }
```

8. What does this program print?

```
1   public class Test
2   {
3      public static void main (String[] args)
4      {
5          System.out.println("39 + 3");
6          System.out.print(39 + 3);
7      }
8   }
```