

**Tutorial 4**

1. Write method headers for methods with the following descriptions:

- a. Computing the larger of two integers

```
public static int larger(int m, int n)
```

- b. Computing the smallest of three values.

*The question is rather vague. We're not told what type of values to compare, so it's best to go for the most general type we know of that can be compared, namely, double.*

```
public static double smallest(double x, double y, double z)
```

- c. Checking whether an integer is even, returning true if it is and false if it is not

```
public static boolean isEven(int m)
```

- d. Printing the calendar for a given month and year

```
public static void printCalendar(int month, int year)
```

- e. Generating a random integer between 1 and n.

```
public static int randInt (int n)
```

- f. Generating a random double between 0 and n.

```
public static double randDouble (int n)
```

2. Look at the following piece of code, and discuss the *scope* of each variable.

```

1 public class TestCode
2 {
3     public static void main(String[] args)
4     {
5         int i = 25;
6         int b = g(i);
7         System.out.println("Result is" + (b + i));
8     }
9
10    public static int f(int i)
11    {
12        int n = 0;
13        while (n * n <= i) { n++; }
14        return n;
15    }
16
17    public static int g(int a)
18    {
19        int b = 0;
20        for (int n = 0; n < a; n++)
21        {
22            int i = f(n);
23            b = b + i;
24        }
25        return b;
26    }
27 }

```

<i>Variable</i>	<i>Scope</i>
<i>parameter args of main method</i>	<i>Point of declaration to end of main method (lines 3 to 8)</i>
<i>i declared in main method</i>	<i>Point of declaration to end of main method (lines 5 to 8)</i>
<i>b declared in main method</i>	<i>Point of declaration to end of main method (lines 6 to 8)</i>
<i>parameter i of method f</i>	<i>Point of declaration to end of method f (lines 11 to 15)</i>
<i>n declared in method f</i>	<i>Point of declaration to end of method f (lines 12 to 15)</i>
<i>parameter a of method g</i>	<i>Point of declaration to end of method g (lines 17 to 26)</i>
<i>b declared in method g</i>	<i>Point of declaration to end of method g (lines 19 to 26)</i>
<i>n in for loop in method g</i>	<i>Point of declaration to end of for loop (lines 20 to 24)</i>
<i>i declared in for loop</i>	<i>Point of declaration to end of for loop (lines 22 to 24)</i>