

## LAB EXERCISE

### MathFun

#### Background:

1. For each primitive data type (such as `int` or `double`) there is a corresponding class (such as `Integer` or `Double`) in package `java.lang`. These classes (commonly known as wrapper classes) provide methods and constants for dealing with primitive data type values. Primitive data types do not have methods. Therefore, methods related to a primitive data type are located in the corresponding wrapper class.
2. Some of the information provided by the wrapper classes are constants to indicate the largest and smallest values for a given data type. For example, the largest integer is 2147483647.
3. Here are the names of the some of the constants associated with the wrapper classes for each data type:

```
Byte.MAX_VALUE           // the largest value of type byte
Byte.MIN_VALUE           // the smallest value of type byte
Short.MAX_VALUE          // the largest value of type short
Short.MIN_VALUE          // the smallest value of type short
Character.MAX_VALUE      // the largest value of type char
Character.MIN_VALUE      // the smallest value of type char
Integer.MAX_VALUE         // the largest value of type int
Integer.MIN_VALUE         // the smallest value of type int
Long.MAX_VALUE            // the largest value of type long
Long.MIN_VALUE            // the smallest value of type long
Float.MAX_VALUE           // the largest positive value of type float
Float.MIN_VALUE           // the smallest positive value of type float
Double.MAX_VALUE          // the largest positive value of type double
Double.MIN_VALUE          // the smallest positive value of type double
```

### **Assignment:**

1. Write a program to solve the math expressions shown below.
2. The program must store each calculated result in an appropriate variable.
3. The program must print out the math expression and result as follows:

2 + 3 = 5  
17 % 4 = 1

4. The program will **display** and **solve** the following problems:

4 + 9	( <b>double</b> ) 25 / 4
46 / 7	( <b>int</b> ) 7.75 + 2
46 % 7	( <b>int</b> ) 'P'
2 * 3.0	( <b>char</b> ) 105

5. The code for the above will look something like this:

```
intAnswer = 4 + 9;  
System.out.println("4 + 9 = " + intAnswer);
```

6. Print out all the constants listed in Background: section 3. For example:

```
System.out.println("The largest value of type int = " +  
Integer.MAX_VALUE );
```

### **Instructions:**

1. Make sure your name is documented near the top of your source code.
2. Call instructor to your workstation for scoring.