Primitive Types – Worksheet 1

1. Recall our "`Hello World`" program, given in the box below (with line numbers to the left):

```
1 public class HelloWorld {
2     public static void main(String[] args) {
3         System.out.println("Hello World!");
4     }
5 }
```

For each row below, write the output of the above program if line `3` is replaced with the line or lines in the box. If the lines have an error, write a large "**`✗`**" in the column with the heading "`ERROR`" and leave the output column blank.

	If line 3 is replaced with:	ERROR	The output will be:
a)	`System.out.print("Hello" + "World!");`		***HelloWorld!***
b)	`System.out.print("Hello");` `System.out.println(World!);`	✗	
c)	`System.out.print("Hello");` `System.out.println("World!");`		***HelloWorld!***
d)	`System.out.println("Hello");` `System.out.print("World!");`		***Hello*** ***World!***
e)	`System.out.print("3 + 4.0");`		***3 + 4.0***
f)	`System.out.print(3.0 + 4);`		***7.0***
g)	`System.out.print(3.4 + "5.6" + 7.8);`		***3.45.67.8***
h)	`System.out.println(3 + 4.0);`		***7.0***
i)	`System.out.print("1" + 3 + 4);`		***134***
j)	`System.out.print(1 + 3 + "4");`		***44***
k)	`System.out.print(1.0 + 3 + "4");`		***4.04***

2. For each description of data, write the appropriate Java type that would store the data. For this question, select only ***`String`***, or the *AP Java subset* primitive types: ***`int`***, ***`double`***, and ***`boolean`***.

a)	A variable used to store the height of a person, in meters.	***double***
b)	A student's Chinese name, in pinyin.	***String***
c)	A student's Chinese name in Chinese characters	***String***
d)	The floor of a hotel that the tourist will stay on.	***int***
e)	Whether a person has a pet or not.	***boolean***
f)	The year somebody was born.	***int***
g)	The average score for the class on a quiz.	***double***
h)	The number of people who are present in a park at any given time, with people entering and leaving throughout the day.	***int***

Primitive Types – Worksheet 1

3. Determine the final result and type (**`String`**, **`int`**, **`double`**) of each operation.

expression	value	type
`7+5/2.0`	***9.5***	***double***
`8*6-14%3+8/2`	***50***	***int***
`"Result:" + 3 * 5`	***Result:15***	***String***
`5/4*8%5+1/2+3/4.0`	***3.75***	***double***
`(double)(4/3)+(int)5/2.0`	***3.5***	***double***

4. ***Without using your computer***, write a method named **`calculateAverage`** that takes in two parameters of type **`int`**, and returns the average of the two numbers as type **`double`**. The method should be a **`public static`** method.

a)

```
public static double calculateAverage(int a,
                                      int b) {
    return (a + b) / 2.0;
}
```

Once completed, type the following code into your computer and add your method in the appropriate place.

```
public class CalculateAverageMethod {

     public static void main(String[] args) {
          double result;
          result = calculateAverage(4,8);
          System.out.println(result);
          result = calculateAverage(4,5);
          System.out.println(result);
     }

     /* REPLACE THIS LINE WITH YOUR calculateAverage METHOD */
}
```

Debug your code, then rewrite the final version of your code into the box below. Do NOT correct your initial code from part (a).

b)

```
public static double calculateAverage(int a,
                                      int b) {
    return (a + b) / 2.0;
}
```