

Java Lab 1: Variables & Operators

1. (2 points) Correct the following statements:

- a) `boolean isGood = 1;`
- b) `char firstLetter = p;`
- c) `int 2way = 89;`
- d) `String name = Zahir;`
- e) `int student score = 89;`
- f) `Double $class = 4.5;`
- g) `int _parents = 20.5;`
- h) `string name = "Greg";`

2. (2 points) Without doing any programming, write down what the following main method prints to the screen? (Hint: Keep track of the values of all the variables for each line)

```
public static void main(String[] args) {
    int x = 5;
    int y = 3;
    int z = x + x*y - y;
    System.out.println("The value of z is " + z);

    int w = (x + x)*y - y;
    System.out.println("The value of w is " + w);

    z = w + 3;
    System.out.println("The value of z is now " + z);

    z -= 2;
    System.out.println("The value of z is " + z);

    z++;
    System.out.println("The value of z is " + z);

    --z;
    System.out.println("The value of z is " + z);

    boolean a = true;
    boolean b = false;
    boolean c = ((a && (!(x > y))) && (a || y > x));
    System.out.println("c is " + c);
}
```

3. (2 points) Create a new Java file with a class called `UsingOperators` and copy the above main method into it. (Can you figure out what the name of the of the Java file must be? Hint: see step 10 of Lab 0.) Compile and run. Does the output match what you thought?

4. (1 points) Create a new Java class called `TempConverter`. Add a main method to `TempConverter` that declares and initializes a variable to store the temperature in Celsius. Your temperature variable should be store numbers with decimal places.

5. (2 points) In the main method, compute the temperature in Fahrenheit according to the following formula and print it to the screen:
$$\text{Fahrenheit} = (9 \div 5) \times \text{Celsius} + 32$$

6. (1 point) Set the Celsius variable to 100 and compile and run `TempConverter`. The correct output is 212.0. If your output was 132, you probably used integer division somewhere by mistake.