

CPSC 2150 Software Development Foundations
Homework 1

1. The 8 primitive types available in Java are Boolean, byte, char, short, int, long, float, and double.
2. The statements that will cause an error in Java are:
 - a. `int x = 67L; //` Because you append the L it becomes a long but its looking for an int.
 - b. `boolean c = 0; //` Because the boolean type is either true or false.
 - c. `short g = -42424; //` Because a short has no sign.
3. After the given code executes, the balance of A is 300, the balance of B is 200, and the balance of C is 700.
4. When checking for equality of multiple variables of type integer, always use the double equals, eg. `int x = 5; int y = 7; if (x == y).`
5. The easiest way to convert an integer stored in a string in java would be as follows: `int x = Integer.parseInt(str); //` Now x = the # value from str
6. The final values for X, Y, and Z are X = 37, Y = 12, and Z = 42.
7. Underneath is the code to accomplish the given task.

```
import java.util.Scanner;

public class Main {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

        System.out.println("Please enter your first name: ");
        String firstname = input.next();

        System.out.println("Please enter your last name: ");
        String lastname = input.next();

        System.out.println("Hello " + firstname + " " + lastname + "!");
    }
}
```

8. The use of the keyword “final” modifies a variable so that once it is initialized, it cannot be changed, regardless of what value it holds. The value or reference will never change.

9.

```
int[][] test = new int[5][];
test[0] = new int[3];
test[1] = new int[2];
test[2] = new int[1];
test[3] = new int[2];
test[4] = new int[3]; // Technically the primitive int defaults to initialization
of 0
int i, j;
for (i = 0; i < test.length; i++) {
    for (j = 0; j < test[i].length; j++) {
        test[i][j] = 0;
    }
}
```
10. The variable X's data type determines whether or not the value of X will change inside the function foo. If the variable X is any data type that is not one of the 8 primitive data types, it will be passed into the function, foo, by reference and therefore changes there will follow it outside of the function as well.