**Loops**

**Topics - For loops, While loops, Sentinel-Controlled loops, java.util.Random**

**Program:**

Write a program that generates a random 4-color code, and has the user guess until they get it correct.

Use java.util.Random for the random number generator.

Use the colors red, blue, green, and yellow.

If the user does not enter the correct code, output that they are incorrect and announce the number of colors they got correct, but not which ones were correct.

You must use only one for loop and one while loop.

Assume the user will only enter correct inputs. Any input that is not a correct color (reeeed, purple, toyota) will simply be considered incorrect, but the program should not crash.

**Expected Outcomes: Outcomes will differ based on your color code.**

1. Enter first color: Red

Enter second color: Green

Enter third color: Blue

Enter fourth color: Green

Your guess is: Red, Green, Blue, Green

Your guess is incorrect. You got 3 correct. Try again.

Enter first color: blUE

Enter second color: GREen

Enter third color: BLUE

Enter fourth color: greeeeeeen

Your guess is: blUE, GREen, BLUE, greeeeeeen

Your guess is incorrect. You got 2 correct. Try again.

Enter first color: Red

Enter second color: Blue

Enter third color: Blue

Enter fourth color: Green

Your guess is: Red, Blue, Blue, Green

Your guess is correct! Congratulations!

You got it in 3 tries. Good Job!

1. Enter first color: Blue

Enter second color: Green

Enter third color: Yellow

Enter fourth color: Yellow

Your guess is: Blue, Green, Yellow, Yellow

Your guess is correct! Congratulations!

You got it in 1 try! Awesome!

**Questions:**

1. **What’s wrong with the following code?**

boolean x = false;

while (!x){

int i = 0;

System.out.println(i);

i++;

}

1. **What will the following code output?**

for (int a = 0; a < 5; a++){

for (int b = 5; b > 5; b--){

System.out.print(a\*b);

}

}

1. **Will the following code run? If not, what needs to be changed to make it run?**

int value = 5;

while (value.equals(5)){

System.out.println(“True”);

value = 0;

}