CIS 36A – 10th In Class / Take Home Assignment – **10 Points**
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Define / Give an Example with output of Each Shorthand Assignment Operators

+=: shorthand operator that add the value on the right, to the variable on the left, and then assigns that value back into the variable on the left.

Int a = 6; a+= 5;

Output: 11

-=: shorthand operator that subtract the value on the right, to the variable on the left, and then assigns that value back into the variable on the left.

Int a = 6; a-=5;

Output: 1

*=: shorthand operator that multiply the value on the right, to the variable on the left, and then assigns that value back into the variable on the left.

Int a = 6; a*= 5;

Output: 30

/=: shorthand operator that divide the value on the right, to the variable on the left, and then assigns that value back into the variable on the left.

Int a = 6; a /= 5;

Output: 6/5

%=: shorthand operator that Module the value on the right, to the variable on the left, and then assigns that value back into the variable on the left.

Int a = 6; a %= 5;

Output: 1

Math library Introduction, Define Each

Math.random(): returns a random double value with a positive sign, greater than or equal to 0.0 and less than 1.0.

Math.round(x): round the x in to 1 decimal digit

Math.max(x, y): find the maximum number between x and y

Math.min(x, y): find the minimum number between x and y

Math.abs(x): The method gives the absolute value of the argument. If the value is negative, it will return a positive number.

## Programming Assignments

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Task 1- Write a program that creates thee random **double** variables **a,b,** and **c** and assigns them values between 0 and 1 using the **Math.random()**

Method mentioned in the preceding exercise. It then does all of the following:

A. It prints out the three values.

B. It prints “All are tiny” if all three values are less than 0.2.

C. It prints out “One is tiny” if exactly one of the three values is less than 0.2

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```java
package javaapplication1;

public class JavaApplication1 {

    public static void main(String[] args) {
        double x = Math.random();
        double y = Math.random();
        double z = Math.random();
        double max, min;

        //System.out.println("Double between 0.0 and 1.0: x = "+ Math.round(x));
        //System.out.println("Double between 0.0 and 1.0: y = "+ Math.round(y));
        //System.out.println("Double between 0.0 and 1.0: z = "+ Math.round(z));

        System.out.println("Double between 0.0 and 1.0: x = "+ x);
        System.out.println("Double between 0.0 and 1.0: y = "+ y);
        System.out.println("Double between 0.0 and 1.0: z = "+ z);

        //max = Math.max(x,y);
        //min = Math.max(x,y);
        //System.out.println("Max: " + max);
        //System.out.println("Min: " + Min);

        max = Math.max(x, Math.max(y, z));
        //System.out.println("Max: " + max);

        if(max < 0.2) {
            System.out.println("all are tiny");
        }

        if(x < 0.2 || y < 0.2 || z < 0.2) {
            System.out.println("One is tiny");
        }
    }
}
```

JavaApplication1 > main

**Output - JavaApplication1 (run)**

```
run:
Double between 0.0 and 1.0: x = 0.17317188788531834
Double between 0.0 and 1.0: y = 0.06819847522293954
Double between 0.0 and 1.0: z = 0.1271103870701945
all are tiny
One is tiny
BUILD SUCCESSFUL (total time: 0 seconds)
```