**AP Computer Science - Math.random() Function**

The Math.random() function will create a random double value in the range between 0 to 1. (.000001 to .999999)

We can use this function to create random integers within a range of our choosing. Look at this code:

**This number (10) controls the number of possible values**

**int num = (int)(Math.random() \* 10) + 1**

**This controls the lowest possible value in the range**

This will multiply the random number by 10, then cast it as an integer, dropping off any decimal places. The end result is a number in the range from (.00001 to 9.9999, which converts to 0 to 9 (when converted to an integer). Typically, we will add 1 to this code to produce a range of 1 to 10.

So, if I wanted to create a random whole number in the range from 1 to 100, I would use this code:

**int num = (int)(Math.random() \* 100) + 1**

If I wanted to create a random number between 10 and 20, I would write this code:

**int num = (int)(Math.random() \* 11) + 10 (11 possible values between 11 and 20, and 10 is the lowest value)**

Essentially, the number you are multiply RND() by is the total number of different values possible in your chosen range. (10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20) There are 11 numbers here. The number that I add in the end is simply the starting (first number) for the range.

Create a java program called **RandomPractice** that will generate and output (with appropriate text) the range of numbers requested in the problem.

1. 1 to 31 (Random day in the month of May)
2. 13 to 21 (Random room in the business department)
3. 75,000 to 100,000 (Random Salary for a Computer Programmer)
4. 1970 to 2017 (Random Year in which Mr. Dixon has lived)
5. -1000 to 1000 (Daily earnings on stock market investments)
6. -9 to 12 (Random Golf score)