Project #1

Background: Random number generators are used in many different types of programs like simulators. Random number generators typically generate real numbers between 0 and 1. If you want a number between 0 and 10, you can just multiply the number that comes from the random number generator by 10. Through simple arithmetic a random number in any range can be generated.

It is important to know that a random number generator really is random. If so, it should have uniform distribution between 0 and 1. Another words, as the set of random numbers gets very large you have the same number of numbers between 0 and 0.1; 0.1 and 0.2; 0.2 and 0.3, etc.

There are some famous examples of companies using poor random number generators and losing millions of dollars due to bad simulations.

Description: Below you are given two random number generators. Your assignment it to test them and see if they truly are random.

Random Number Generator 1: The first random number generator comes from Python itself. To use it you need to import the Python package. Then call the random() method. See below.

```
import random
print (random.random())
```

Random Number Generator 2: The second random number generator I created myself, called drBRandom. It works like this. You enter the last random number into it to get the next number. The first time that you call it, you can enter any number. Here is an example

```
import math

def drBRandom(lastNum):
    return math.cos(lastNum)

ln = 0.01
for x in range(1,10):
    ln = drBRandom(ln)
    print(ln)
```

Test both random number generators for uniformity. Write a 2 page report.

This is due the end of week 5.