In [3]:
```
pip install py-cpuinfo
```

```
Collecting py-cpuinfoNote: you may need to restart the kernel to use upd
ated packages.

WARNING: You are using pip version 20.3; however, version 21.0 is availa
ble.
You should consider upgrading via the 'C:\ProgramData\Anaconda3\python.e
xe -m pip install --upgrade pip' command.

  Downloading py-cpuinfo-7.0.0.tar.gz (95 kB)
Building wheels for collected packages: py-cpuinfo
  Building wheel for py-cpuinfo (setup.py): started
  Building wheel for py-cpuinfo (setup.py): finished with status 'done'
  Created wheel for py-cpuinfo: filename=py_cpuinfo-7.0.0-py3-none-any.w
hl size=20068 sha256=b7f548b0372f4f498e7fa34a835633860dd72031a12fa578ad
4e8b3ee3dcd65
  Stored in directory: c:\users\administrator\appdata\local\pip\cache\wh
eels\b4\99\9f\8eb77f4d759c138071907172f2c37dd0fa1f6aa477c51cb6c
Successfully built py-cpuinfo
Installing collected packages: py-cpuinfo
Successfully installed py-cpuinfo-7.0.0
```

Generacion de Numeros Aleatorios

Nicolas Añazco

In [21]:
```
#Importacion de Librerias a utilizar
import psutil
import cpuinfo

tem= 1077
OxC= 27
nprox = float(cpuinfo.get_cpu_info()['count'])
vel = float(cpuinfo.get_cpu_info()['hz_advertised_friendly'].split(" ")
[0])
flops = nprox*vel*OxC
mflops = int(flops*1024)
uso_cpu = psutil.cpu_percent()
ram = psutil.virtual_memory().total
uso_ram = psutil.virtual_memory().used
valores = [tem, mflops, uso_cpu, ram, uso_ram, 185925, 21041, 8265, 2611
19,20127]

def obtenerN(digitos):
    valor1= 0
    valor2= 0

    if digitos%2 != 0:
        valor1 = int(digitos/2)
        valor2 = int(digitos/2)+1
    else:
        valor1 = int(digitos/2)
        valor2 = valor1
    return valor1,valor2

def calcular(iters, val, digitos):
    x0_semilla = int(val)
    aum = obtenerN(digitos)
    print("Iteracion: ", "Xn", "Xn*Xn", "Longitud","Ui","Rn")
    for i in range(iters):
        xn2= x0_semilla**2
        long = len(str(xn2))
        ui = str(xn2)[int(long/2)-aum[0]:int(long/2)+aum[1]]
        rn = int(ui)/10**digitos
        print(i, " ", x0_semilla," ",xn2, " ", long, " ",ui, " ", rn)
        x0_semilla=int(ui)
    print(" ")
```

In [22]:
```
iteraciones = 16
digitos = 4
for i in valores:
    print("i: ",,i)
    calcular(iteraciones, i,digitos)
    print(" ")
```

```
i:  1077
Iteracion:  Xn Xn*Xn Longitud Ui Rn
0   1077   1159929   7   1599   0.1599
1   1599   2556801   7   5568   0.5568
2   5568   31002624   8   0026   0.0026
3   26   676   3   6   0.0006
4   6   36   2   6   0.0006
5   6   36   2   6   0.0006
6   6   36   2   6   0.0006
7   6   36   2   6   0.0006
8   6   36   2   6   0.0006
9   6   36   2   6   0.0006
10   6   36   2   6   0.0006
11   6   36   2   6   0.0006
12   6   36   2   6   0.0006
13   6   36   2   6   0.0006
14   6   36   2   6   0.0006
15   6   36   2   6   0.0006


i:  276480
Iteracion:  Xn Xn*Xn Longitud Ui Rn
0   276480   76441190400   11   4119   0.4119
1   4119   16966161   8   9661   0.9661
2   9661   93334921   8   3349   0.3349
3   3349   11215801   8   2158   0.2158
4   2158   4656964   7   6569   0.6569
5   6569   43151761   8   1517   0.1517
6   1517   2301289   7   3012   0.3012
7   3012   9072144   7   0721   0.0721
8   721   519841   6   1984   0.1984
9   1984   3936256   7   9362   0.9362
10   9362   87647044   8   6470   0.6647
11   6470   41869000   8   8609   0.8609
12   8609   74114881   8   1148   0.1148
13   1148   1317904   7   3179   0.3179
14   3179   10106041   8   1060   0.106
15   1060   1123600   7   1236   0.1236


i:  24.9
Iteracion:  Xn Xn*Xn Longitud Ui Rn
0   24   576   3   6   0.0006
1   6   36   2   6   0.0006
2   6   36   2   6   0.0006
3   6   36   2   6   0.0006
4   6   36   2   6   0.0006
5   6   36   2   6   0.0006
6   6   36   2   6   0.0006
7   6   36   2   6   0.0006
8   6   36   2   6   0.0006
9   6   36   2   6   0.0006
10   6   36   2   6   0.0006
11   6   36   2   6   0.0006
12   6   36   2   6   0.0006
13   6   36   2   6   0.0006
14   6   36   2   6   0.0006
15   6   36   2   6   0.0006


i:  8436596736
Iteracion:  Xn Xn*Xn Longitud Ui Rn
0   8436596736   71176164485885853696   20   4858   0.4858
1   4858   23600164   8   6001   0.6001
2   6001   36012001   8   0120   0.012
3   120   14400   5   1440   0.144
4   1440   2073600   7   0736   0.0736
5   736   541696   6   4169   0.4169
6   4169   17380561   8   3805   0.3805
7   3805   14478025   8   4780   0.478
8   4780   22848400   8   8484   0.8484
9   8484   71978256   8   9782   0.9782
10   9782   95687524   8   6875   0.6875
11   6875   47256625   8   2656   0.2656
12   2656   7054336   7   0543   0.0543
13   543   294849   6   9484   0.9484
14   9484   89946256   8   9462   0.9462
15   9462   89529444   8   5294   0.5294


i:  6679183360
Iteracion:  Xn Xn*Xn Longitud Ui Rn
0   6679183360   44614093560088960400   20   3565   0.3565
1   3565   12709225   8   7092   0.7092
2   7092   50296464   8   2964   0.2964
3   2964   8785296   7   7852   0.7852
4   7852   61653904   8   6539   0.6539
5   6539   42758521   8   7585   0.7585
6   7585   57532225   8   5322   0.5322
7   5322   28323684   8   3236   0.3236
8   3236   10471696   8   4716   0.4716
9   4716   22240656   8   2406   0.2406
10   2406   5788836   7   7888   0.7888
11   7888   62228544   8   2205   0.2205
12   2205   4862025   7   8620   0.862
13   8620   74304400   8   3044   0.3044
14   3044   9265936   7   2659   0.2659
15   2659   7070281   7   0702   0.0702


i:  185925
Iteracion:  Xn Xn*Xn Longitud Ui Rn
0   185925   34568105625   11   6810   0.681
1   6810   46376100   8   3761   0.3761
2   3761   14145121   8   1451   0.1451
3   1451   2105401   7   1054   0.1054
4   1054   1110916   7   1109   0.1109
5   1109   1229881   7   2298   0.2298
6   2298   5280804   7   2808   0.2808
7   2808   7884864   7   8848   0.8848
8   8848   78287104   8   2871   0.2871
9   2871   8242641   7   2426   0.2426
10   2426   5885476   7   8854   0.8854
11   8854   78393316   8   3933   0.3933
12   3933   15468489   8   4684   0.4684
13   4684   21939856   8   9398   0.9398
14   9398   88322404   8   3224   0.3224
15   3224   10394176   8   3941   0.3941


i:  21041
Iteracion:  Xn Xn*Xn Longitud Ui Rn
0   21041   442723681   9   2723   0.2723
1   2723   7414729   7   4147   0.4147
2   4147   17197609   8   1976   0.1976
3   1976   3904576   7   9045   0.9045
4   9045   81812025   8   8120   0.812
5   8120   65934400   8   9344   0.9344
6   9344   87310336   8   3103   0.3103
7   3103   9628609   7   6286   0.6286
8   6286   39513796   8   5137   0.5137
9   5137   26388769   8   3887   0.3887
10   3887   15108769   8   1087   0.1087
11   1087   1181569   7   1815   0.1815
12   1815   3294225   7   2942   0.2942
13   2942   8655364   7   6553   0.6553
14   6553   42941809   8   9418   0.9418
15   9418   88698724   8   6987   0.6987


i:  8265
Iteracion:  Xn Xn*Xn Longitud Ui Rn
0   8265   68310225   8   3102   0.3102
1   3102   9622404   7   6224   0.6224
2   6224   38738176   8   7381   0.7381
3   7381   54479161   8   4791   0.4791
4   4791   22953681   8   9536   0.9536
5   9536   90935296   8   9352   0.9352
6   9352   87459904   8   4599   0.4599
7   4599   21150801   8   1508   0.1508
8   1508   2274064   7   2740   0.274
9   2740   7507600   7   5076   0.5076
10   5076   25765776   8   7657   0.7657
11   7657   58629649   8   6296   0.6296
12   6296   39639616   8   6396   0.6396
13   6396   40908816   8   9088   0.9088
14   9088   82591744   8   5917   0.5917
15   5917   35010889   8   0108   0.0108


i:  261119
Iteracion:  Xn Xn*Xn Longitud Ui Rn
0   261119   68183332161   11   8313   0.8313
1   8313   69105969   8   1059   0.1059
2   1059   1121481   7   1214   0.1214
3   1214   1473796   7   4737   0.4737
4   4737   22439169   8   4391   0.4391
5   4391   19280881   8   2808   0.2808
6   2808   7884864   7   8848   0.8848
7   8848   78287104   8   2871   0.2871
8   2871   8242641   7   2426   0.2426
9   2426   5885476   7   8854   0.8854
10   8854   78393316   8   3933   0.3933
11   3933   15468489   8   4684   0.4684
12   4684   21939856   8   9398   0.9398
13   9398   88322404   8   3224   0.3224
14   3224   10394176   8   3941   0.3941
15   3941   15531481   8   5314   0.5314


i:  20127
Iteracion:  Xn Xn*Xn Longitud Ui Rn
0   20127   405096129   9   5096   0.5096
1   5096   25969216   8   9692   0.9692
2   9692   93934864   8   9348   0.9348
3   9348   87385104   8   3851   0.3851
4   3851   14830201   8   8302   0.8302
5   8302   68923204   8   9232   0.9232
6   9232   85229824   8   2298   0.2298
7   2298   5280804   7   2808   0.2808
8   2808   7884864   7   8848   0.8848
9   8848   78287104   8   2871   0.2871
10   2871   8242641   7   2426   0.2426
11   2426   5885476   7   8854   0.8854
12   8854   78393316   8   3933   0.3933
13   3933   15468489   8   4684   0.4684
14   4684   21939856   8   9398   0.9398
15   9398   88322404   8   3224   0.3224
```

In [ ]: