In [3]:
```
import simpy
import random
import matplotlib.pyplot as pp
import numpy as np
import math
from tabulate import tabulate
from prettytable import PrettyTable
```

In [9]:
```
x0I= int(input("Numero de la Semilla: "))
itera= int(input("Cantidad de Interaciones: "))
digitos=int(input("Numero de Digitos: "))
xn=0
xn2=0
largo=8
rn=0
ui=0

tabla = PrettyTable()

tabla.field_names =['Iteracion','Xn','Xn*Xn','Longitud','Ui','Rn']
x0=x0I
for i in range(0,itera+1):

    xn=x0
    xn2=pow(xn,2)
    largo=(len(str(xn2)))
    k=((largo/2)-(digitos/2))
    l=((largo/2)+(digitos/2))
    ui=(int(str(xn2)[int(k):int(l)]))
    rn=(ui/10000)
    x0=ui
    tabla.add_row([i,xn,xn2,largo,ui,rn])

print(tabla)
```

```
Numero de la Semilla: 9823
Cantidad de Interaciones: 30
Numero de Digitos: 4
+-----------+------+----------+----------+------+--------+
| Iteracion |  Xn  |  Xn*Xn   | Longitud |  Ui  |   Rn   |
+-----------+------+----------+----------+------+--------+
|     0     | 9823 | 96491329 |    8     | 4913 | 0.4913 |
|     1     | 4913 | 24137569 |    8     | 1375 | 0.1375 |
|     2     | 1375 | 1890625  |    7     | 8906 | 0.8906 |
|     3     | 8906 | 79316836 |    8     | 3168 | 0.3168 |
|     4     | 3168 | 10036224 |    8     | 362  | 0.0362 |
|     5     | 362  |  131044  |    6     | 3104 | 0.3104 |
|     6     | 3104 | 9634816  |    7     | 6348 | 0.6348 |
|     7     | 6348 | 40297104 |    8     | 2971 | 0.2971 |
|     8     | 2971 | 8826841  |    7     | 8268 | 0.8268 |
|     9     | 8268 | 68359824 |    8     | 3598 | 0.3598 |
|     10    | 3598 | 12945604 |    8     | 9456 | 0.9456 |
|     11    | 9456 | 89415936 |    8     | 4159 | 0.4159 |
|     12    | 4159 | 17297281 |    8     | 2972 | 0.2972 |
|     13    | 2972 | 8832784  |    7     | 8327 | 0.8327 |
|     14    | 8327 | 69338929 |    8     | 3389 | 0.3389 |
|     15    | 3389 | 11485321 |    8     | 4853 | 0.4853 |
|     16    | 4853 | 23551609 |    8     | 5516 | 0.5516 |
|     17    | 5516 | 30426256 |    8     | 4262 | 0.4262 |
|     18    | 4262 | 18164644 |    8     | 1646 | 0.1646 |
|     19    | 1646 | 2709316  |    7     | 7093 | 0.7093 |
|     20    | 7093 | 50310649 |    8     | 3106 | 0.3106 |
|     21    | 3106 | 9647236  |    7     | 6472 | 0.6472 |
|     22    | 6472 | 41886784 |    8     | 8867 | 0.8867 |
|     23    | 8867 | 78623689 |    8     | 6236 | 0.6236 |
|     24    | 6236 | 38887696 |    8     | 8876 | 0.8876 |
|     25    | 8876 | 78783376 |    8     | 7833 | 0.7833 |
|     26    | 7833 | 61355889 |    8     | 3558 | 0.3558 |
|     27    | 3558 | 12659364 |    8     | 6593 | 0.6593 |
|     28    | 6593 | 43467649 |    8     | 4676 | 0.4676 |
|     29    | 4676 | 21864976 |    8     | 8649 | 0.8649 |
|     30    | 8649 | 74805201 |    8     | 8052 | 0.8052 |
+-----------+------+----------+----------+------+--------+
```

In [ ]: