

```
import random
import math
from sys import stdout

sumSec = 0
sumTick = 0
goal = 43100
sumComp = 0
sumLong = 0
nbLong = 0

def distfunc(p):
    # Progressive distribution
    # p a random float number between 0 and 1
    return 60.0 - ( 1798.32 * math.sqrt(0.00111319-0.00111215*p))

def progressiveRand():
    # return a random number between 1 and 60 according to distfunc distribution
    p = random.uniform(0.1, 1.0)
    return int(distfunc(p)*100)/100

def distfunc1(p,lone,thr):
    # Thresolded distribution
    # thr : break point
    # part of number smaller than thr
    # p a random float number between 0 and 1
    if p<lone :
        a = 1000+int(p * ((thr-100)/lone) )
    else:
        a = 1000+int((thr-100)+( ((60000-thr)/(1-lone))*(p-lone) ) )
    return a

def segRand():
    # return a random number between 1 and 60 according to distfunc1
    # distribution with 80% of number smaller than 5
    p = random.uniform(0.1, 1.0)
    return distfunc1(p,.8,5000)/1000

while sumSec< goal:
    newSec = progressiveRand()
    nbLong += 1
    sumLong += newSec
    compSec = newSec-1
    sumComp += compSec*2
    sumTick += 1+compSec*2
    sumSec += newSec+compSec
    stdout.write("%.2f,"%newSec))
stdout.write("\n")
print("sumSec\tsumTick\tnbComp\tnbLong\tsumLong/nbLong")
print("%d\t%d\t%d\t%d\t%d" %(sumSec,sumTick,sumComp,nbLong,sumLong/nbLong))
```