

```
#SE IMPORTA LAS LIBRERIAS NECESARIAS
import matplotlib.pyplot as plt
import numpy as np
import math as mt
import numpy as np
#SE GENERA UN METODO PARA GENERAR LA ECUACION DE LA RECTA
def ecu_recta():
    #SE GENERA NUMEROS ALEATORIOS
    x = np.random.random(50)*10
    y = np.random.random(50)*10
    #SE GUARDA EN UNAS LISTAS NUMPY PARA EJE X y Y.
    X = np.array(x.reshape((50,1)))
    Y = np.array(y.reshape((50,1)))
    print(X)
    print(Y)

    ex=sum(X)
    ey=sum(Y)
    exy=sum(X*Y)
    exx=sum(X*X)
    lon=len(X)
    m=(lon*exy-ex*ey)/(lon*exx-mt.pow(abs(ex),2))
    b=(ey*exx-ex*exy)/(lon*exx-mt.pow(abs(ex),2))
    ecuacion_recta=""
    m=round(m[0],4)
    b=round(b[0],4)
    if (b < 0):
        ecuacion_recta='y = {}x {}'
    else:
        ecuacion_recta='y = {}x + {}'
    print(ecuacion_recta.format(m,b))
    fu=lambda x: m*x+b
    li=np.arange(min(X)-5.0,max(X)+5.0,0.5)
    plt.plot(X,Y,'o')
    plt.axhline(y=0,color="red")
    plt.axvline(x=0,color="red")
    plt.plot(li,fu(li))
    plt.grid(True)
    plt.show()
#SE EJECUTA LA ECUACION DE LA RECTA
ecu_recta()
```

```
[ [4.19821418]
  [8.2985823 ]
  [8.11813097]
  [5.21600888]
  [7.52974368]
  [1.71690753]
  [8.41515038]
  [6.28288857]
  [3.87415793]
  [4.72215809]
  [7.66142506]
  [6.94149206]
  [9.2919616 ]
  [5.78721875]
  [3.62141486]
  [7.23883297]
  [9.20255235]
  [2.19915477]
  [0.66352491]
  [2.08508958]
  [3.76764634]
  [6.00306375]
  [3.3902031 ]
  [4.86606353]
  [3.23178073]
  [1.28877193]
  [8.55480813]
  [9.60628473]
  [2.77267081]
  [9.51170428]
  [1.76873535]
  [9.62363651]
  [7.74865365]
  [2.87314756]
  [2.16978873]
  [2.86775161]
  [2.43609194]
  [9.65261897]
  [0.83029834]
  [2.45523898]
  [8.61316709]
  [6.24685488]
  [5.73836586]
  [9.25029505]
  [0.24301319]
  [8.35243678]
  [4.2793091 ]
  [0.4351882 ]
  [8.06145427]
  [0.84656027] ]
[ [0.58768244]
  [3.03449844]
  [8.2573312 ]
  [8.38469725]
  [3.45364141]
  [9.93454846]
  [5.71202082]
  [7.18864632]
  [0.70041674]
```

