main.py

```python
import numpy as np
import matplotlib.pyplot as plt

def estimate_coef(x,y):
  n = np.size(x)

  m_x = np.mean(x)
  m_y = np.mean(y)

  SS_xy = np.sum(y*x) - n*m_y*m_x
  SS_xx = np.sum(x*x) - n*m_x*m_x

  b_1 = SS_xy / SS_xx
  b_0 = m_y - b_1*m_x

  return(b_0,b_1)

def plot_regression_line(x,y,b):
  plt.scatter(x,y,color = "m",marker = "o",s = 30)
  y_pred = b[0] + b[1]*x
  plt.plot(x,y_pred,color = "g")
  plt.xlabel('x')
  plt.ylabel('y')

def main():
  x = np.array([0,1,2,3,4,5,6,7,8,9])
  y = np.array([1,3,2,5,7,8,8,9,10,12])
  b = estimate_coef(x,y)
  print("Estimated coefficients:\nb_0 = {} \nb_1 = {}".format(b[0],b[1]))
  plot_regression_line(x,y,b)
  plt.show()

main();
```

```
Estimated coefficients:
b_0 = 1.2363636363636363
b_1 = 1.1696969696969697
```

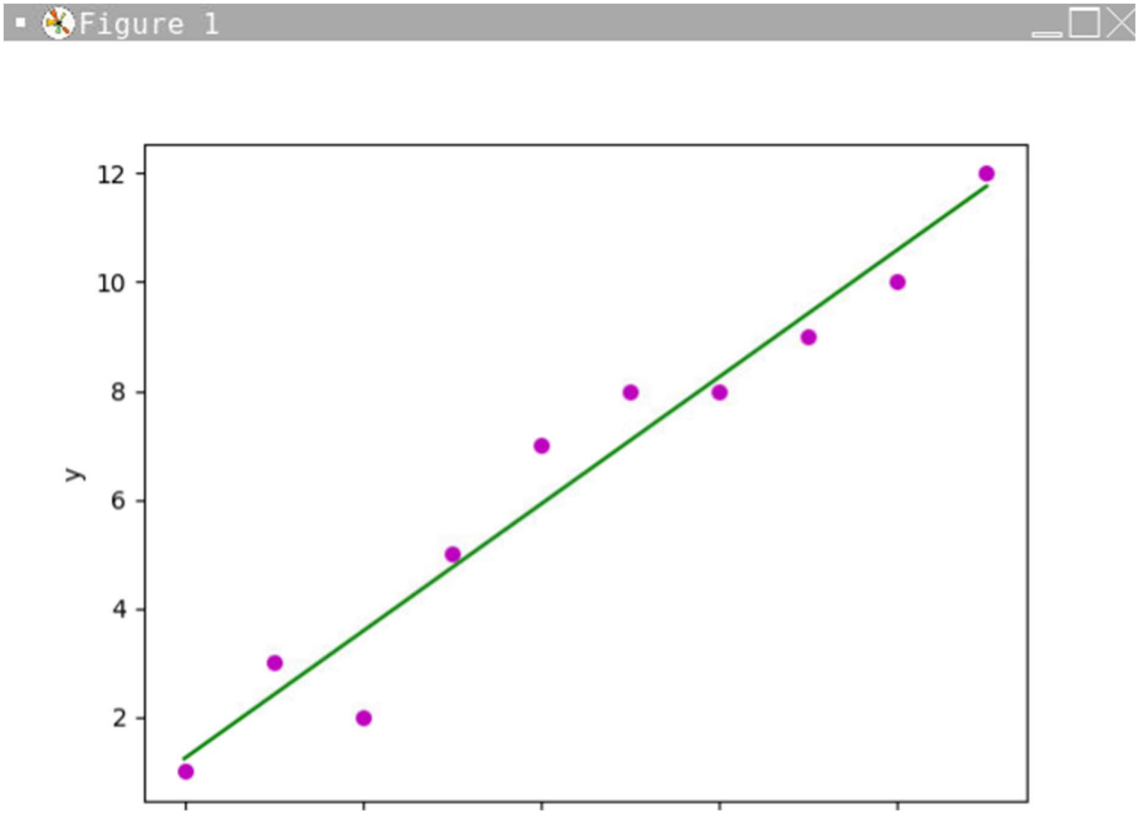
Figure 1
12
10
8
6
4
2
y