

```
In [45]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

```
In [46]: data= pd.read_csv("studentRecord.csv")
```

```
In [47]: data
```

Out[47]:

	Student Name	Age	Gender	Mid term marks	Assignments	Final Term	Total	Performance Score
0	Zain	19	1	25	1.0	20	46.0	50.0
1	Manyam	19	2	15	1.0	40	56.0	55.0
2	Talha	18	1	23	2.0	22	47.0	51.0
3	Saad	20	1	29	4.0	0	33.0	40.0
4	Wahab	19	1	30	6.0	50	86.0	86.0
...
64	kasahan	19	1	14	10.0	32	56.0	34.0
65	Sara	19	2	13	9.0	42	64.0	66.0
66	Taira	17	2	3	2.0	17	22.0	12.0
67	Saira	18	2	0	10.0	35	45.0	42.0
68	M Hadi	22	1	30	9.0	29	68.0	77.0

69 rows x 8 columns

```
In [48]: X = data['Total']
```

```
In [49]: Y = data['Performance Score']
```

```
In [50]: mean_x = np.mean(X)
mean_x
```

Out[50]: 53.74637681159421

```
In [51]: mean_y = np.mean(Y)
mean_y
```

Out[51]: 52.462318840579705

```
In [52]: size = len(X)
```

```
In [56]: num = 0
dem = 0
for i in range(size):
    num += (X[i] - mean_x) * (Y[i] - mean_y)
    dem += (X[i] - mean_x) ** 2
m = num / dem
```

```
In [57]: m
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Out[57]: 1.041646459013148

```
In [58]: c = mean_y - (m * mean_x)
```

```
In [59]: c
```

Out[59]: -3.522404250003774

```
In [60]: max_x = np.max(X) + 100
min_x = np.min(X) - 100
```

```
In [61]: x = np.linspace(min_x, max_x, 1000)  
         y = m*x + c
```

```
In [62]: plt.plot(x, y)  
         plt.scatter(X, Y, color="Red")
```

```
Out[62]: <matplotlib.collections.PathCollection at 0x26c1ce3e8b0>
```

