

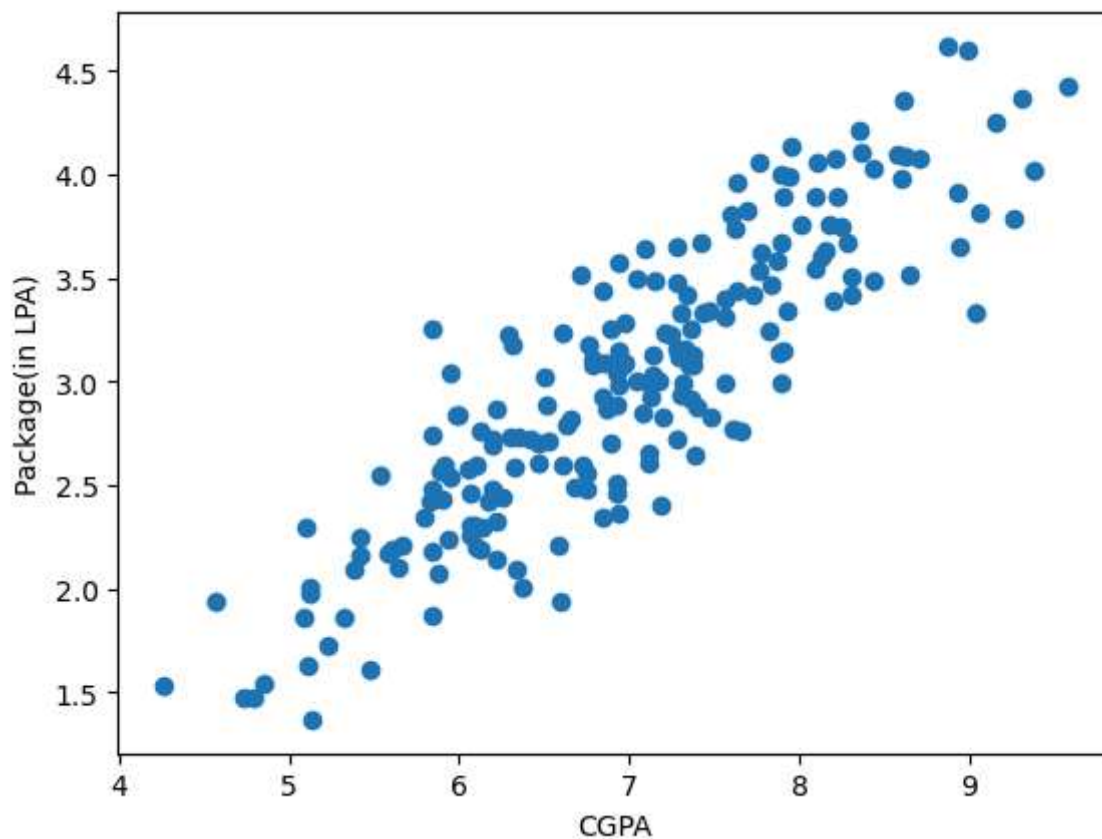
```
In [65]: import matplotlib.pyplot as plt
import pandas as pd
import numpy as np
```

```
In [7]: df = pd.read_csv('placement.csv')
df.head()
```

```
Out[7]:
```

	cgpa	package
0	6.89	3.26
1	5.12	1.98
2	7.82	3.25
3	7.42	3.67
4	6.94	3.57

```
In [67]: plt.scatter(df['cgpa'],df['package'])
plt.xlabel('CGPA')
plt.ylabel('Package(in LPA)')
plt.show()
```



```
In [15]: X = df.iloc[:,0:1]
y = df.iloc[:,1]
```

In [19]: `y`

Out[19]:

0	3.26
1	1.98
2	3.25
3	3.67
4	3.57
...	
195	2.46
196	2.57
197	3.24
198	3.96
199	2.33

Name: package, Length: 200, dtype: float64

In [21]: `from sklearn.model_selection import train_test_split`
`X_train,X_test,y_train,y_test = train_test_split(X,y,test_size=0.2,random_state=2)`

In [23]: `from sklearn.linear_model import LinearRegression`

In [25]: `lr = LinearRegression()`

In [27]: `lr.fit(X_train,y_train)`

Out[27]:

▼ LinearRegression ⓘ ?

LinearRegression()

In [29]: `X_test`

Out[29]:

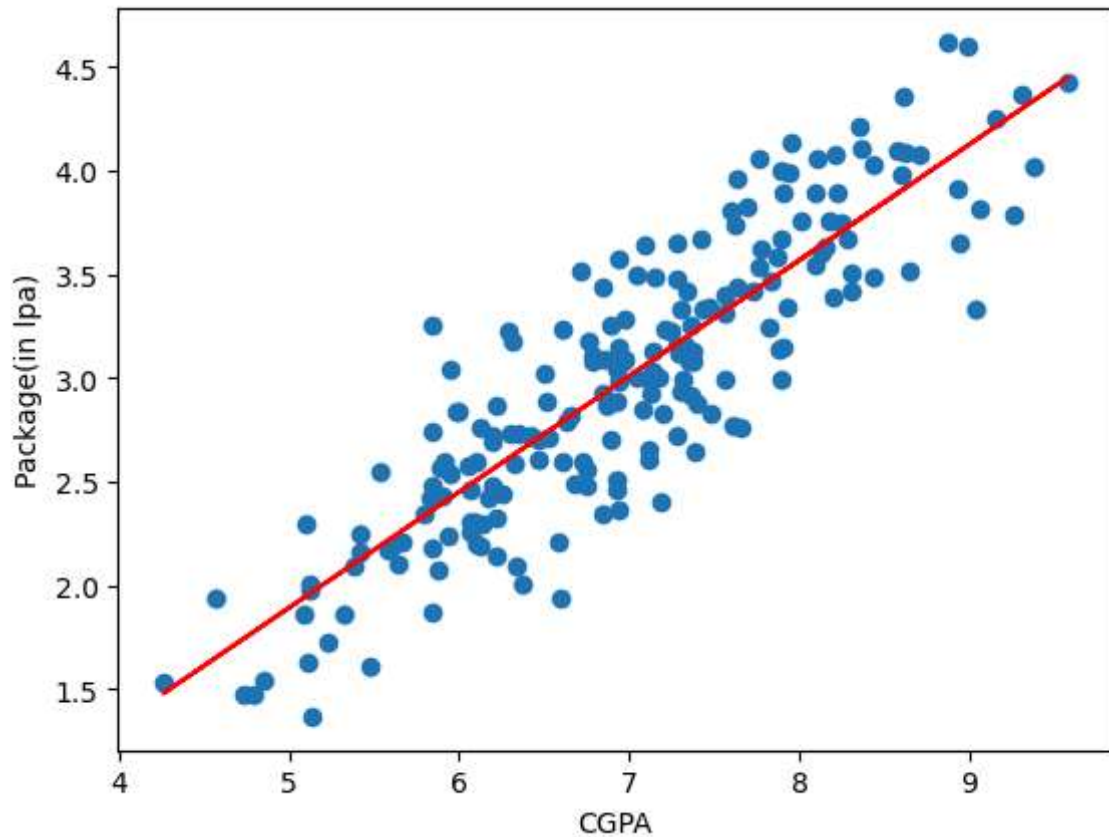
	cgpa
112	8.58
29	7.15
182	5.88
199	6.22
193	4.57
85	4.79
10	5.32
54	6.86
115	8.35
35	6.87
12	8.94
92	7.90
13	6.93
126	5.91
174	7.32
2	7.82
44	5.09
3	7.42
113	6.94
14	7.73
23	6.19
25	7.28
6	6.73
134	7.20
165	8.21
173	6.75
45	7.87
65	7.60
48	8.63
122	5.12

	cgpa
178	8.15
64	7.36
9	8.31
57	6.60
78	6.59
71	7.47
128	7.93
176	6.29
131	6.37
53	6.47

In [31]: `y_test`

```
Out[31]: 112    4.10
          29    3.49
          182   2.08
          199   2.33
          193   1.94
           85   1.48
           10   1.86
           54   3.09
          115   4.21
           35   2.87
           12   3.65
           92   4.00
           13   2.89
          126   2.60
          174   2.99
            2   3.25
           44   1.86
            3   3.67
          113   2.37
           14   3.42
           23   2.48
           25   3.65
            6   2.60
          134   2.83
          165   4.08
          173   2.56
           45   3.58
           65   3.81
           48   4.09
          122   2.01
          178   3.63
           64   2.92
            9   3.51
           57   1.94
           78   2.21
           71   3.34
          128   3.34
          176   3.23
          131   2.01
           53   2.61
          Name: package, dtype: float64
```

```
In [69]: plt.scatter(df['cgpa'],df['package'])
          plt.plot(X_train,lr.predict(X_train),color='red')
          plt.xlabel('CGPA')
          plt.ylabel('Package(in lpa)')
          plt.show()
```



$$y = mx + c$$

```
In [51]: m = lr.coef_
```

```
In [53]: c = lr.intercept_
```

```
In [57]: # y = mx + c
y = m*8.58+c
y
```

```
Out[57]: array([3.89111601])
```

- If cgpa is 8.58 then package will be of 3.89 LPA

```
In [60]: m * 9.8 + c
```

```
Out[60]: array([4.57181742])
```

- If CGPA is 9.8 then package will be of 4.57 LPA

```
In [ ]:
```