

▼ Data Loading & Initial Exploration

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

df=pd.read_csv("/content/placement (1).csv")
```

```
df.head(5)
```

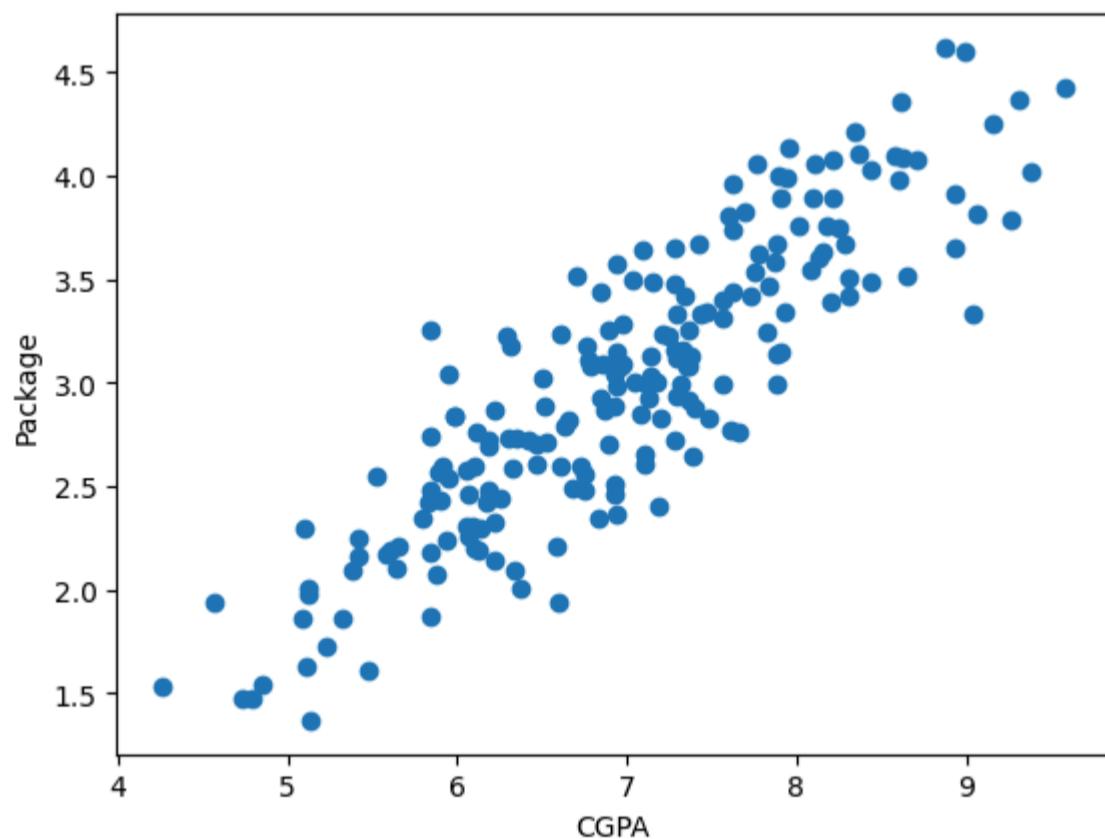
	cgpa	package
0	6.89	3.26
1	5.12	1.98
2	7.82	3.25
3	7.42	3.67
4	6.94	3.57

Next steps: [Generate code with df](#) [New interactive sheet](#)

▼ CGPA vs Package Visualization

```
plt.scatter(df['cgpa'],df['package'])
plt.xlabel("CGPA")
plt.ylabel("Package")
```

Text(0, 0.5, 'Package')



▼ Train-Test Split

```
x=df.iloc[:,0:1]
y=df.iloc[:, -1]
```

```
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=0)
```

▼ Model Training

```
from sklearn.linear_model import LinearRegression
lr=LinearRegression()
lr.fit(x_train,y_train)
```

▼ LinearRegression ⓘ ?

LinearRegression()

x_test.head()

	cgpa
18	6.94
170	6.22
107	6.33
98	7.69
177	7.09

Next steps: [Generate code with x_test](#) [New interactive sheet](#)

y_test.head()

	package
18	2.98
170	2.87
107	2.59
98	3.83
177	3.64

dtype: float64

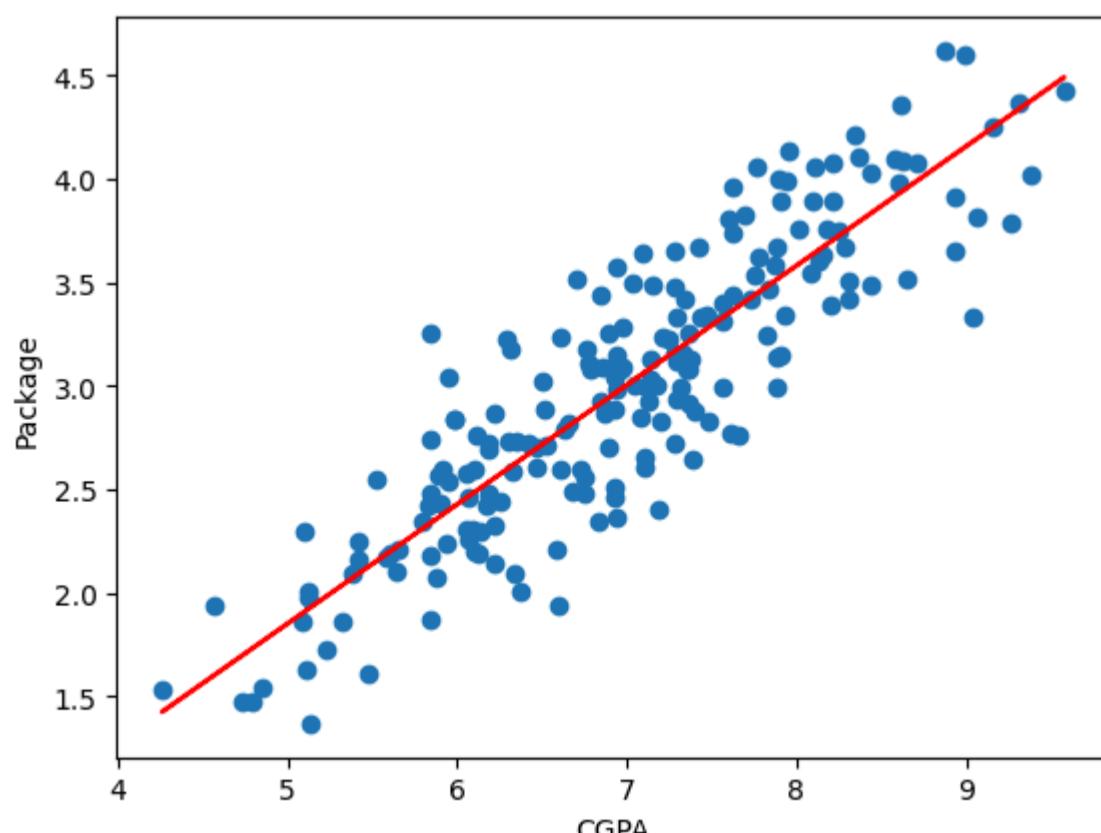
▼ Making Predictions

```
lr.predict(x_test.iloc[18].values.reshape(1,1))
```

```
/usr/local/lib/python3.12/dist-packages/sklearn/utils/validation.py:2739: UserWarning: X does not have valid feature names, but Li
  warnings.warn(
array([2.37074243])
```

```
plt.scatter(df['cgpa'],df['package'])
plt.plot(x_train,lr.predict(x_train),color="red")
plt.xlabel("CGPA")
plt.ylabel("Package")
```

Text(0, 0.5, 'Package')



▼ Model Parameters (Slope & Intercept)

```
m=lr.coef_
```

m

```
array([0.57633042])
```

```
b=lr.intercept_
b
```

```
np.float64(-1.0296070415163103)
```

Eg:Cgpa=8.58

```
m * 8.58 + b
```

```
array([3.91530795])
```

Package=3.19