In [73]:
```
import matplotlib.pyplot as plt
import pandas as pd
import numpy as np
```

In [74]:
```
df = pd.read_csv('placement.csv')
```

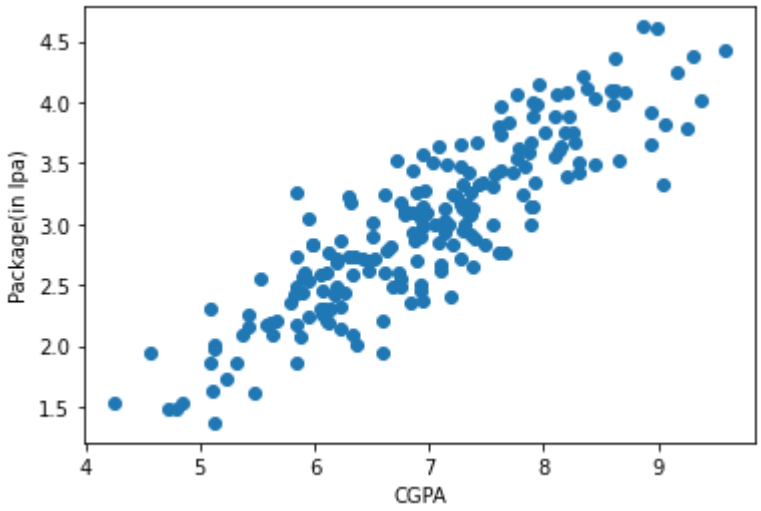
In [75]:
```
df.head()
```

Out[75]:

	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 [76]:
```
plt.scatter(df['cgpa'],df['package'])
plt.xlabel('CGPA')
plt.ylabel('Package(in lpa)')
```

Out[76]:
```
Text(0, 0.5, 'Package(in lpa)')
```



In [77]:
```
X = df.iloc[:,0:1]
y = df.iloc[:,-1]
```

In [79]:
```
y
```

Out[79]:
```
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 [80]:
```
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_st
```

In [81]:
```
from sklearn.linear_model import LinearRegression
```

In [82]:
```
lr = LinearRegression()
```

In [83]:
```
lr.fit(X_train,y_train)
```

Out[83]:
```
LinearRegression()
```

In [84]:
```
X_test
```

Out[84]:

	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
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 [85]:
```
y_test
```

Out[85]:
```
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 [100…

```
lr.predict(X_test.iloc[0].values.reshape(1,1))
```

Out[100…

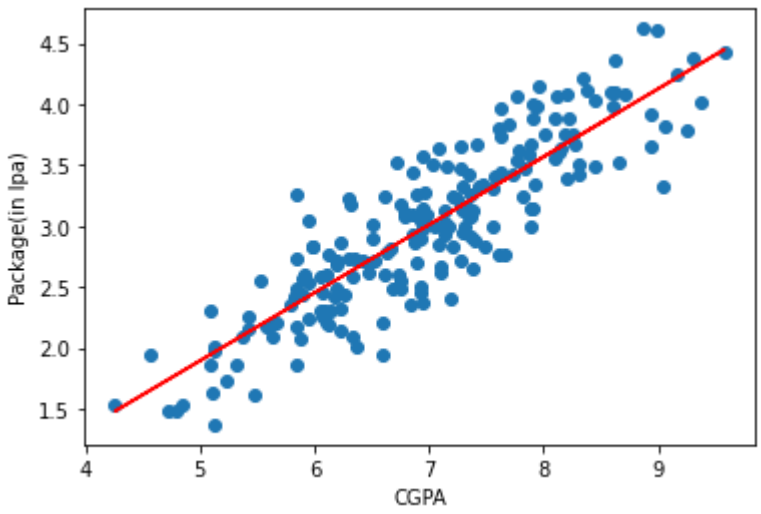
```
array([3.89111601])
```

In [95]:

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

Out[95]:

```
Text(0, 0.5, 'Package(in lpa)')
```



In [97]:

```
m = lr.coef_
```

In [99]:

```
b = lr.intercept_
```

In [101…

```
# y = mx + b

m * 8.58 + b
```

Out[101…

```
array([3.89111601])
```

In [102…

```
m * 9.5 + b
```

Out[102…

```
array([4.40443183])
```

In [103…

```
m * 100 + b
```

Out[103…

```
array([54.89908542])
```

In [ ]: