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In [1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as pp
```

Problem Statement

LINEAR REGRESSION

In [2]:
```
a = pd.read_csv("13_placement.csv")
```

Out[2]:

	cgpa	placement_exam_marks	placed
0	7.19	26.0	1
1	7.46	38.0	1
2	7.54	40.0	1
3	6.42	8.0	1
4	7.23	17.0	0
...	...	...	...
995	8.87	44.0	1
996	9.12	65.0	1
997	4.89	34.0	0
998	8.62	46.0	1
999	4.90	10.0	1

1000 rows × 3 columns

HEAD

In [3]:

Out[3]:

	cgpa	placement_exam_marks	placed
0	7.19	26.0	1
1	7.46	38.0	1
2	7.54	40.0	1
3	6.42	8.0	1
4	7.23	17.0	0

Data Cleaning and Preprocessing

In [4]:

Out[4]:

	cgpa	placement_exam_marks	placed
0	7.19	26.0	1
1	7.46	38.0	1
2	7.54	40.0	1
3	6.42	8.0	1
4	7.23	17.0	0

In [5]:

Out[5]:

	cgpa	placement_exam_marks	placed
count	1000.000000	1000.000000	1000.000000
mean	6.961240	32.225000	0.489000
std	0.615898	19.130822	0.500129
min	4.890000	0.000000	0.000000
25%	6.550000	17.000000	0.000000
50%	6.960000	28.000000	0.000000
75%	7.370000	44.000000	1.000000
max	9.120000	100.000000	1.000000

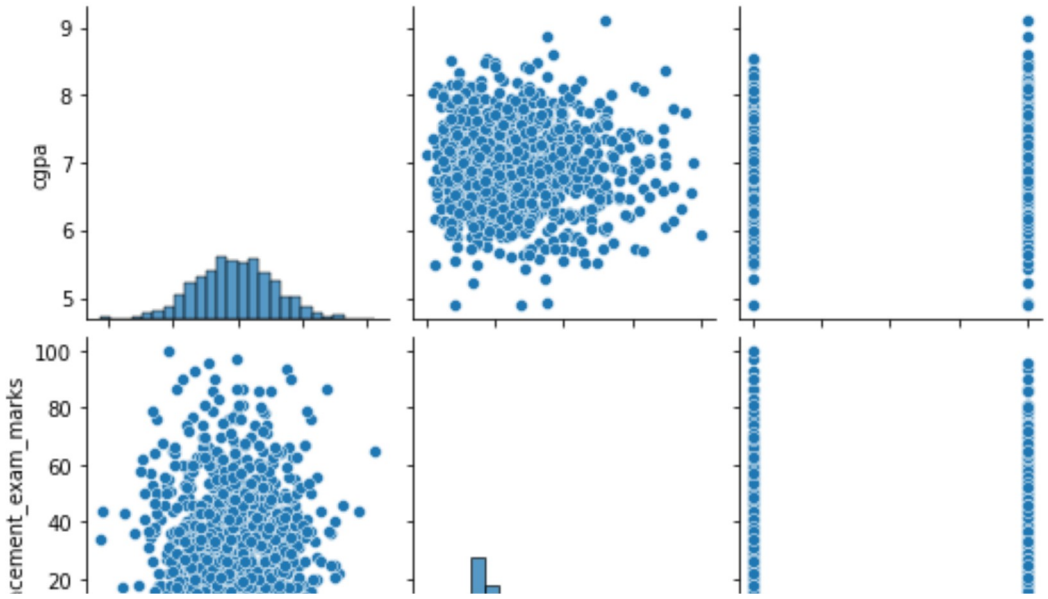
To display heading

In [6]:

Out[6]:
```
Index(['cgpa', 'placement_exam_marks', 'placed'], dtype='object')
```

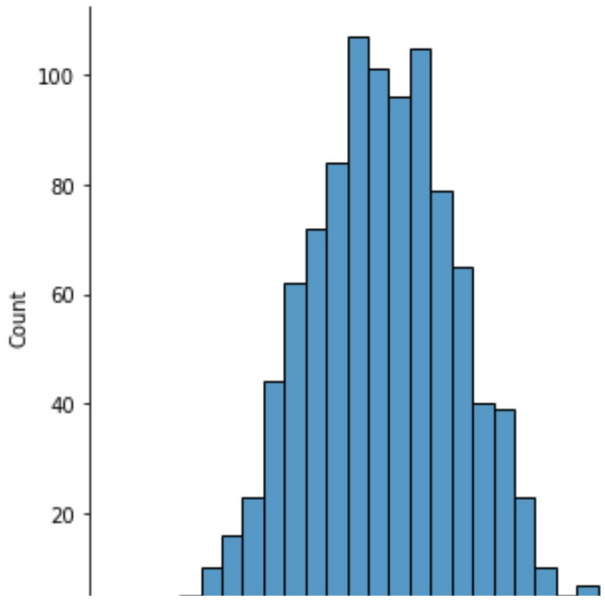
In [7]:

Out[7]: <seaborn.axisgrid.PairGrid at 0x15c638ed5e0>



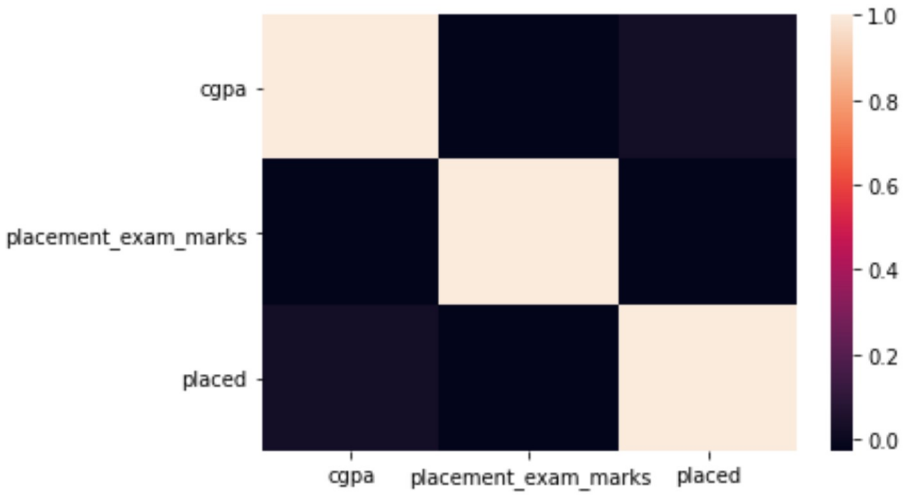
In [8]:

Out[8]: <seaborn.axisgrid.FacetGrid at 0x15c637c9a90>



In [9]:

Out[9]: <AxesSubplot:>



TO TRAIN THE MODEL - MODEL BUILDING

In [10]:
```
x = a[['cgpa']]
```

In [11]:
```
# to split my dataset into training and test data
from sklearn.model_selection import train_test_split
```

In [12]:
```
from sklearn.linear_model import LinearRegression
lr = LinearRegression()
```

Out[12]: LinearRegression()

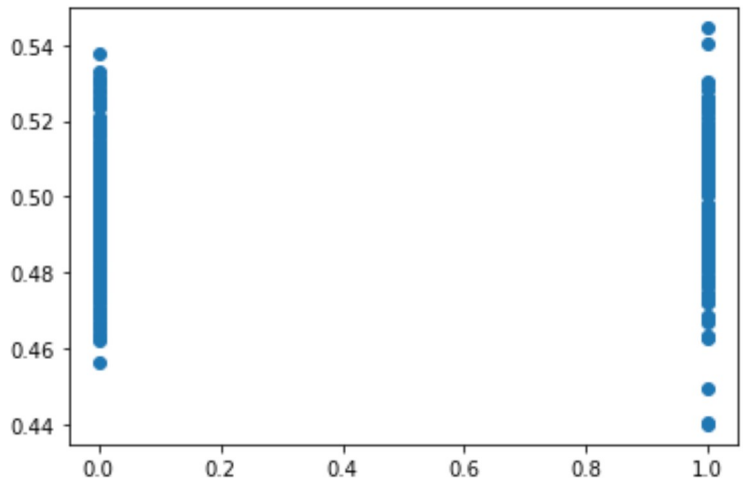
In [13]:
```
coeff = pd.DataFrame(lr.coef_,x.columns,columns=['Co-efficient'])
```

Out[13]:

	Co-efficient
cgpa	0.02812

In [14]:
```
prediction= lr.predict(x_test)
```

Out[14]: <matplotlib.collections.PathCollection at 0x15c6604a640>



In [15]:

Out[15]: -0.004386155156133498

RIDGE & LASSO

In [16]:
```
from sklearn.linear_model import Ridge,Lasso
rr=Ridge(alpha=10)
```

Out[16]: Ridge(alpha=10)

In [17]:

Out[17]: -0.004330423880884782

In [18]:
```
la=Lasso(alpha=10)
```

Out[18]: Lasso(alpha=10)

In [19]:

Out[19]: -0.004089832361516388