In [2]:
```
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
import seaborn as sns
```

In [3]:
```
df = pd.read_csv('..\Datascie\data\customer.csv')
```

In [4]:
```
df.head()
```

Out[4]:

	gender	age	salary	purchased
0	Male	19	19000	0
1	Male	35	20000	0
2	Female	26	43000	0
3	Female	27	57000	0
4	Male	19	76000	0

In [5]:
```
df
```

Out[5]:

	gender	age	salary	purchased
0	Male	19	19000	0
1	Male	35	20000	0
2	Female	26	43000	0
3	Female	27	57000	0
4	Male	19	76000	0
...	...	...	...	...
395	Female	46	41000	1
396	Male	51	23000	1
397	Female	50	20000	1
398	Male	36	33000	0
399	Female	49	36000	1

400 rows × 4 columns

In [6]:
```
from sklearn.preprocessing import StandardScaler
from sklearn.model_selection import train_test_split
from sklearn.neighbors import KNeighborsClassifier
```

In [23]:
```
att = df[['age' , 'salary']]
label = df['purchased']

att_train ,att_test , class_train , class_test = train_test_split(att,label,rar
scaler = StandardScaler()
scaler.fit(att_train)

att_train[['age' , 'salary']] = scaler.transform(att_train)
model = KNeighborsClassifier(n_neighbors=3)
model.fit(att_train,class_train)

model.score(scaler.transform(att_test) , class_test)
```

```
c:\Users\User\anaconda3\Lib\site-packages\sklearn\base.py:464: UserWarning: X
does not have valid feature names, but KNeighborsClassifier was fitted with f
eature names
  warnings.warn(
```

Out[23]:
```
0.9083333333333333
```

In [24]:
```
result = pd.concat([att_test,class_test] , axis= 1 )
result['predict'] = model.predict(scaler.transform(att_test))
result
```

```
c:\Users\User\anaconda3\Lib\site-packages\sklearn\base.py:464: UserWarning: X
does not have valid feature names, but KNeighborsClassifier was fitted with f
eature names
  warnings.warn(
```

Out[24]:

	age	salary	purchased	predict
132	30	87000	0	0
309	38	50000	0	0
341	35	75000	0	0
196	30	79000	0	0
246	35	50000	0	0
...	...	...	...	...
216	49	65000	0	0
259	45	131000	1	1
49	31	89000	0	0
238	46	82000	0	1
343	47	51000	1	0

120 rows × 4 columns

In [ ]: