

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

```
In [3]: df = pd.read_csv('Social_Network_Ads.csv')
df.head()
```

Out[3]:

	User ID	Gender	Age	EstimatedSalary	Purchased
0	15624510	Male	19	19000	0
1	15810944	Male	35	20000	0
2	15668575	Female	26	43000	0
3	15603246	Female	27	57000	0
4	15804002	Male	19	76000	0

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

Out[4]:

	User ID	Age	EstimatedSalary	Purchased
count	4.000000e+02	400.000000	400.000000	400.000000
mean	1.569154e+07	37.655000	69742.500000	0.357500
std	7.165832e+04	10.482877	34096.960282	0.479864
min	1.556669e+07	18.000000	15000.000000	0.000000
25%	1.562676e+07	29.750000	43000.000000	0.000000
50%	1.569434e+07	37.000000	70000.000000	0.000000
75%	1.575036e+07	46.000000	88000.000000	1.000000
max	1.581524e+07	60.000000	150000.000000	1.000000

```
In [5]: df.shape
```

Out[5]: (400, 5)

```
In [6]: x = df.iloc[:,2:4]
y = df.iloc[:,4:]
```

```
In [7]: from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test = train_test_split(x,y,test_size=0.25,random_sta
```

```
In [8]: x_train.shape
```

Out[8]: (300, 2)

```
In [9]: from sklearn.preprocessing import StandardScaler
```

```
In [10]: sc = StandardScaler()  
x_train = sc.fit_transform(x_train)  
x_test = sc.fit_transform(x_test)
```

```
In [11]: from sklearn.svm import SVC
```

```
In [12]: svc = SVC(kernel='linear', random_state=0)  
svc.fit(x_train, y_train)
```

C:\Users\prati\anaconda3\lib\site-packages\sklearn\utils\validation.py:1143:
DataConversionWarning: A column-vector y was passed when a 1d array was expected. Please change the shape of y to (n_samples,), for example using ravel().
y = column_or_1d(y, warn=True)

```
Out[12]: SVC  
SVC(kernel='linear', random_state=0)
```

```
In [13]: y_pred = svc.predict(x_test)
```

```
In [14]: from sklearn.metrics import accuracy_score
```

```
In [15]: accuracy_score(y_test, y_pred)
```

```
Out[15]: 0.88
```

```
In [16]: svc = SVC(kernel='poly', random_state=0)
```

```
In [17]: svc.fit(x_train, y_train)
```

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DataConversionWarning: A column-vector y was passed when a 1d array was expected. Please change the shape of y to (n_samples,), for example using ravel().
y = column_or_1d(y, warn=True)

```
Out[17]: SVC  
SVC(kernel='poly', random_state=0)
```

```
In [18]: y_pred = svc.predict(x_test)
```

```
In [19]: accuracy_score(y_test, y_pred)
```

```
Out[19]: 0.84
```

```
In [22]: svc = SVC(kernel='rbf',random_state=0)
svc.fit(x_train, y_train)
y_pred = svc.predict(x_test)
accuracy_score(y_test,y_pred)
```

```
C:\Users\prati\anaconda3\lib\site-packages\sklearn\utils\validation.py:1143:
DataConversionWarning: A column-vector y was passed when a 1d array was expected. Please change the shape of y to (n_samples, ), for example using ravel().
  y = column_or_1d(y, warn=True)
```

Out[22]: 0.93

In []: