In [1]:

```
import opendatasets as od
od.download('https://www.kaggle.com/datasets/rakeshrau/social-network-ads')
```

```
Please provide your Kaggle credentials to download this dataset. Learn more:
http://bit.ly/kaggle-creds (http://bit.ly/kaggle-creds)
Your Kaggle username: masapetaalishaanjum
Your Kaggle Key: ·····
Downloading social-network-ads.zip to .\social-network-ads

100%|
     | 3.27k/3.27k [00:00<00:00, 1.31MB/s]
```

In [2]:

```
import pandas as pd
import numpy as np
df=pd.read_csv('Social_Network_Ads.csv')
df
```

Out[2]:

	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
...	...	...	...	...	...
395	15691863	Female	46	41000	1
396	15706071	Male	51	23000	1
397	15654296	Female	50	20000	1
398	15755018	Male	36	33000	0
399	15594041	Female	49	36000	1

400 rows × 5 columns

In [4]:

```
X = df.iloc[:, [2, 3]].values
Y = df.iloc[:, 4].values
X
```

```
       [    48,  33000],
       [    44, 139000],
       [    49,  28000],
       [    57,  33000],
       [    56,  60000],
       [    49,  39000],
       [    39,  71000],
       [    47,  34000],
       [    48,  35000],
       [    48,  33000],
       [    47,  23000],
       [    45,  45000],
       [    60,  42000],
       [    39,  59000],
       [    46,  41000],
       [    51,  23000],
       [    50,  20000],
       [    36,  33000],
       [    49,  36000]], dtype=int64)
```

In [5]:

```
Y
```

Out[5]:

```
array([0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1,
       1, 1, 1, 1, 1, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
       0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0,
       0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0,
       0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0,
       0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
       0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,
       0, 0, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,
       0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
       0, 0, 0, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 1, 0, 0, 0, 1, 0, 0, 0, 1,
       0, 1, 1, 1, 0, 0, 1, 1, 0, 1, 1, 0, 1, 1, 0, 1, 0, 0, 0, 1, 1, 0,
       1, 1, 0, 1, 0, 1, 0, 1, 0, 0, 1, 1, 0, 1, 0, 0, 1, 1, 0, 1, 1, 0,
       1, 1, 0, 0, 1, 0, 0, 1, 1, 1, 1, 1, 0, 1, 1, 1, 1, 0, 1, 1, 0, 1,
       0, 1, 0, 1, 1, 1, 1, 0, 0, 0, 1, 1, 0, 1, 1, 1, 1, 1, 0, 0, 0, 1,
       1, 0, 0, 1, 0, 1, 0, 1, 1, 0, 1, 0, 1, 1, 0, 1, 1, 0, 0, 0, 1, 1,
       0, 1, 0, 0, 1, 0, 1, 0, 0, 1, 1, 0, 0, 1, 1, 0, 1, 1, 0, 0, 1, 0,
       1, 0, 1, 1, 1, 0, 1, 0, 1, 1, 1, 0, 1, 1, 1, 1, 0, 1, 1, 1, 0, 1,
       0, 1, 0, 0, 1, 1, 0, 1, 1, 1, 1, 1, 1, 0, 1, 1, 1, 1, 1, 1, 0, 1,
       1, 1, 0, 1], dtype=int64)
```

In [6]:

```
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_state =
```

In [7]:

```
from sklearn.preprocessing import StandardScaler
sc = StandardScaler()
X_train = sc.fit_transform(X_train)
X_test = sc.transform(X_test)
```

In [8]:

```
from sklearn.svm import SVC
classifier_linear = SVC (kernel = 'linear', random_state = 0)
classifier_linear.fit(X_train, Y_train)
Y_pred_linear= classifier_linear.predict(X_test)
```

In [9]:

```
from sklearn.metrics import confusion_matrix
cm= confusion_matrix(Y_test, Y_pred_linear)
cm
```

Out[9]:

```
array([[66,  2],
       [ 8, 24]], dtype=int64)
```

In [10]:

```
from sklearn.metrics import classification_report
print(classification_report(Y_test, Y_pred_linear))
```

```
              precision    recall  f1-score   support

           0       0.89      0.97      0.93        68
           1       0.92      0.75      0.83        32

    accuracy                           0.90       100
   macro avg       0.91      0.86      0.88       100
weighted avg       0.90      0.90      0.90       100
```

In [ ]:

```

```