```python
import pandas as pd
import numpy as np


df = pd.read_csv('/content/Social_Network_Ads.csv')


df.head()
```

	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

```python
X = df[['Age', 'EstimatedSalary']]
y = df['Purchased']


from sklearn.model_selection import train_test_split


X_train, X_test, y_train, y_test = train_test_split(X,y,test_size=0.30)


X_train.shape
```

```
(280, 2)
```

```python
X_train.isna().sum()
```

```
Age                0
EstimatedSalary    0
dtype: int64
```

```python
from sklearn import preprocessing
from sklearn.preprocessing import MinMaxScaler

scalar = MinMaxScaler()
scalar.fit(X_train)
```

```
▾ MinMaxScaler
MinMaxScaler()
```

```python
X_train_scaled = scalar.transform(X_train)
X_test = scalar.transform(X_test)


X_train_scaled
```

```
array([[1.        , 0.2       ],
       [0.4047619 , 0.34074074],
       [0.52380952, 0.31111111],
       [0.66666667, 0.0962963 ],
       [0.57142857, 0.48148148],
       [0.21428571, 0.55555556],
       [0.69047619, 0.68148148],
       [0.19047619, 0.42222222],
       [0.28571429, 0.74814815],
       [0.69047619, 0.05925926],
       [0.45238095, 0.45925926],
       [0.35714286, 0.72592593],
       [0.9047619 , 0.65925926],
       [0.71428571, 0.13333333],
       [0.19047619, 0.27407407],
       [0.21428571, 0.31851852],
       [0.88095238, 0.17777778],
       [0.47619048, 0.41481481],
       [0.04761905, 0.4962963 ],
       [0.42857143, 0.13333333],
       [0.57142857, 0.37037037],
       [0.80952381, 0.55555556],
       [0.5       , 0.2       ],
       [0.4047619 , 0.17777778],
       [0.52380952, 0.46666667],
       [0.97619048, 0.85185185],
       [0.76190476, 0.03703704],
```

```
           [0.76190476, 0.21481481],
           [0.14285714, 0.12592593],
           [0.69047619, 0.14074074],
           [0.4047619 , 0.97777778],
           [0.19047619, 0.48148148],
           [0.54761905, 0.42222222],
           [0.4047619 , 0.42222222],
           [0.45238095, 0.48148148],
           [0.45238095, 0.43703704],
           [0.52380952, 0.44444444],
           [0.83333333, 0.14074074],
           [0.4047619 , 0.54074074],
           [0.23809524, 0.47407407],
           [0.66666667, 0.43703704],
           [0.33333333, 0.75555556],
           [0.45238095, 0.44444444],
           [0.11904762, 0.35555556],
           [0.45238095, 0.95555556],
           [0.35714286, 0.26666667],
           [0.38095238, 0.74074074],
           [0.57142857, 0.68888889],
           [0.64285714, 0.05185185],
           [0.47619048, 0.72592593],
           [0.04761905, 0.25185185],
           [0.19047619, 0.00740741],
           [0.28571429, 0.         ],
           [0.28571429, 0.34814815],
           [0.92857143, 0.43703704],
           [0.5       , 0.79259259],
           [0.78571429, 0.05925926],
           [0.4047619 , 0.60740741],
```

```
from sklearn.linear_model import LogisticRegression
model = LogisticRegression()

model.fit(X_train_scaled, y_train)
model.score(X_train_scaled, y_train)
```

```
    0.8464285714285714
```

```
model.score(X_test, y_test)
```

```
    0.7833333333333333
```