

- NAME:G.Madhuri
- REGD:21B01A1258
- IT-A

Import Libraries

In [1]:

```
import numpy as np
import pandas as pd
from sklearn import metrics
from sklearn import svm
from sklearn.model_selection import train_test_split
```

Loading Dataset Social_Network_Ads.csv and define X with 2nd, 3rd columns and y with 4th column

In [2]:

```
df = pd.read_csv("Social_Network_Ads.csv")
#df.head()
X = df.iloc[:, [2, 3]].values
y = df.iloc[:, 4].values
```

Scaling X using StandardScaler

In [4]:

```
from sklearn.preprocessing import StandardScaler
sc_X = StandardScaler()
X = sc_X.fit_transform(X)
```

Splitting into Training and testing sets testing set 0.25

In [5]:

```
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
```

Create SVC model with kernel 'linear'

In [6]:

```
from sklearn.svm import SVC
classifier = SVC(kernel='linear', random_state=0)
classifier.fit(X_train, y_train)
```

Out[6]:

```
SVC(C=1.0, cache_size=200, class_weight=None, coef0=0.0,
    decision_function_shape='ovr', degree=3, gamma='auto', kernel='linear',
    max_iter=-1, probability=False, random_state=0, shrinking=True,
    tol=0.001, verbose=False)
```

Predict the Y with the X_Test values

In [7]:

```
y_pred = classifier.predict(X_test)
```

Print Confusion Matrix

In [8]:

```
from sklearn.metrics import confusion_matrix
cm = confusion_matrix(y_test, y_pred)
print(cm)
```

```
[[66  2]
 [ 8 24]]
```

Check and Print the Accuracy score

In [9]:

```
from sklearn.metrics import accuracy_score

print('Model accuracy score : {0:0.4f}'.format(accuracy_score(y_test, y_pred)))
```

```
Model accuracy score : 0.9000
```

Print classification report

In [10]:

```
from sklearn.metrics import classification_report, confusion_matrix  
print(classification_report(y_test,y_pred))
```

	precision	recall	f1-score	support
0	0.89	0.97	0.93	68
1	0.92	0.75	0.83	32
avg / total	0.90	0.90	0.90	100