

```
import numpy as np
import pandas as pd
df=pd.read_csv('/content/diabetes.csv')
df
```

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Age	C
0	6	148	72	35	0	33.6	0.627	50	
1	1	85	66	29	0	26.6	0.351	31	
2	8	183	64	0	0	23.3	0.672	32	
3	1	89	66	23	94	28.1	0.167	21	
4	0	137	40	35	168	43.1	2.288	33	
...	
763	10	101	76	48	180	32.9	0.171	63	
764	2	122	70	27	0	36.8	0.340	27	
765	5	121	72	23	112	26.2	0.245	30	
766	1	126	60	0	0	30.1	0.349	47	
767	1	93	70	31	0	30.4	0.315	23	

768 rows × 9 columns

```
df.head()
```

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Age	Out
0	6	148	72	35	0	33.6	0.627	50	
1	1	85	66	29	0	26.6	0.351	31	
2	8	183	64	0	0	23.3	0.672	32	
3	1	89	66	23	94	28.1	0.167	21	
4	0	137	40	35	168	43.1	2.288	33	

```
df.tail()
```

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Age	C
763	10	101	76	48	180	32.9	0.171	63	
764	2	122	70	27	0	36.8	0.340	27	
765	5	121	72	23	112	26.2	0.245	30	
766	1	126	60	0	0	30.1	0.349	47	
767	1	93	70	31	0	30.4	0.315	23	

```
df.dtypes
```

Pregnancies int64
Glucose int64
BloodPressure int64
SkinThickness int64

[illegible]

```

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,random_state=1)
x_train

array([[1.50e+01, 1.36e+02, 7.00e+01, ..., 3.71e+01, 1.53e-01, 4.30e+01],
       [0.00e+00, 9.70e+01, 6.40e+01, ..., 3.68e+01, 6.00e-01, 2.50e+01],
       [1.00e+00, 1.16e+02, 7.00e+01, ..., 2.74e+01, 2.04e-01, 2.10e+01],
       ...,
       [1.30e+01, 1.26e+02, 9.00e+01, ..., 4.34e+01, 5.83e-01, 4.20e+01],
       [4.00e+00, 1.71e+02, 7.20e+01, ..., 4.36e+01, 4.79e-01, 2.60e+01],
       [9.00e+00, 1.02e+02, 7.60e+01, ..., 3.29e+01, 6.65e-01, 4.60e+01]])

#Normalization
#MinMaxScaler
from sklearn.preprocessing import MinMaxScaler
scaler=MinMaxScaler()
scaler.fit(x_train)
x_train=scaler.transform(x_train)
x_test=scaler.transform(x_test)
x_train

array([[1.         , 0.68686869, 0.57377049, ..., 0.55290611, 0.03030303,
        0.43137255],
       [0.         , 0.48989899, 0.52459016, ..., 0.54843517, 0.22950089,
        0.07843137],
       [0.06666667, 0.58585859, 0.57377049, ..., 0.40834575, 0.0530303 ,
        0.         ],
       ...,
       [0.86666667, 0.63636364, 0.73770492, ..., 0.64679583, 0.22192513,
        0.41176471],
       [0.26666667, 0.86363636, 0.59016393, ..., 0.64977645, 0.17557932,
        0.09803922],
       [0.6         , 0.51515152, 0.62295082, ..., 0.49031297, 0.25846702,
        0.49019608]])

from sklearn.svm import SVC
model=SVC()
model.fit(x_train,y_train)
y_pred=model.predict(x_test)
y_pred

array([0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0,
        1, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0,
        0, 0, 1, 1, 0, 0, 0, 0, 1, 0, 1, 0, 1, 0, 0, 0, 1, 0, 1, 0, 0, 0,
        0, 0, 1, 1, 1, 1, 1, 0, 1, 0, 1, 0, 0, 1, 1, 0, 0, 0, 0, 1, 0, 0,
        0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 1, 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, 1, 0,
        0, 0, 0, 0, 1, 0, 1, 0, 0, 1, 1, 0, 0, 0, 1, 1, 0, 0, 0, 0, 1, 0,
        1, 1, 0, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 0, 0, 1, 0,
        1, 0, 0, 0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0,
        0, 1, 1, 0, 0, 0, 1, 1, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0,
        0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0])

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

[[136  10]
 [ 38  47]]

score=accuracy_score(y_test,y_pred)
score

0.7922077922077922

```