

Program :-

```
import numpy as np
import pandas as pd
from sklearn.tree import DecisionTreeClassifier
from sklearn.model_selection import train_test_split
from sklearn.metrics import classification_report, confusion_matrix, accuracy_score

pima=pd.read_csv(r"/home/student/Desktop/sinan/diabetes.csv")
pima.head(6)
feature_col=['Pregnancies','Glucose','BloodPressure','SkinThickness','Insulin','BMI','DiabetesPe
digreeFunction','Age']
x = pima[feature_col]
y = pima.Outcome
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.3,random_state=1)

clf=DecisionTreeClassifier()
clf = clf.fit(x_train,y_train)
y_pred = clf.predict(x_test)

result = confusion_matrix(y_test,y_pred)
rslt = classification_report (y_test,y_pred)
acc = accuracy_score(y_test,y_pred)
print(result)
print(rslt)
print(acc)
```

Output :-

```
(base) student@cseadmin:~/Desktop/sinan$ python3 dtree.py
[[118  28]
 [ 40  45]]
              precision    recall  f1-score   support

      0       0.75       0.81       0.78         146
      1       0.62       0.53       0.57          85

   accuracy                   0.71         231
  macro avg       0.68       0.67       0.67         231
weighted avg       0.70       0.71       0.70         231

0.7056277056277056
(base) student@cseadmin:~/Desktop/sinan$ ~|
> □
```