3 .Program to implement Naïve Bayes Algorithm using any standard dataset available in the public domain and find the accuracy of the algorithm.

```
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.naive_bayes import GaussianNB

X,y=load_iris(return_X_y=True)

X_train,X_test,y_train,y_test=train_test_split(X,y,test_size=0.5,random_
state=0)
gnb=GaussianNB()

y_pred=gnb.fit(X_train,y_train).predict(X_test)
print(y_pred)
```

[2 1 0 2 0 2 0 1 1 1 1 1 1 1 0 1 1 0 0 2 1 0 0 2 0 0 1 1 0 2 1 0 2 2 1 0 1 1 1 2 0 2 0 0 1 2 2 1 2 1 2 1 1 2 1 1 2 1 2 1 0 2 1 1 1 1 2 0 0 2 1 0 0 1]

```
x_new=[[5,5,4,4]]

y_new=gnb.fit(X_train,y_train).predict(x_new)
print("predicted output for [[5,5,4,4]]:",y_new)
print("Naive bayes score :",gnb.score(X_test,y_test))
```

predicted output for [[5,5,4,4]]: [2]
Naive bayes score : 0.9466666666666667