

Intelligent Systems Lab

Name : Ashutosh Dikshit

SEC : B

ROLL : 50

Reg no : 201700357

IRIS DATASET

```
from sklearn.datasets import load_iris dataset
= load_iris()

X = dataset.data y
= dataset.target

from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.4, random_state=1)

from sklearn.naive_bayes import GaussianNB gnb
= GaussianNB()
gnb.fit(X_train, y_train)

y_pred = gnb.predict(X_test)

from sklearn import metrics print("Gaussian Naive Bayes accuracy:",
metrics.accuracy_score(y_test, y_pred)*100)
```

Output:

Gaussian Naive Bayes accuracy: 95.0

DIGITS DATASET

```
from sklearn.datasets import
load_digits dataset = load_digits() X =
dataset.data y = dataset.target

from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.4,
random_state=1) from sklearn.naive_bayes import GaussianNB gnb =
GaussianNB() gnb.fit(X_train, y_train) y_pred = gnb.predict(X_test)

from sklearn import metrics
```

```
print("Gaussian Naive Bayes accuracy:", metrics.accuracy_score(y_test,
y_pred)*100)
```

Output:

Gaussian Naive Bayes accuracy: 83.03198887343532

WINE DATASET

```
from sklearn.datasets import load_wine
dataset = load_wine() X = dataset.data
y = dataset.target
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.4,
random_state=1)
from sklearn.naive_bayes import GaussianNB
gnb = GaussianNB() gnb.fit(X_train,
y_train) y_pred = gnb.predict(X_test)
from sklearn import metrics
print("Gaussian Naive Bayes accuracy:", metrics.accuracy_score(y_test,
y_pred)*100)
```

Output:

Gaussian Naive Bayes accuracy: 98.61111111111111

BREAST_CANCER DATASET

```
from sklearn.datasets import
load_breast_cancer dataset =
load_breast_cancer() X = dataset.data y =
dataset.target
from sklearn.model_selection import train_test_split
```

```
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.4,
random_state=1)  from sklearn.naive_bayes import GaussianNB  gnb =
GaussianNB()  gnb.fit(X_train, y_train)  y_pred = gnb.predict(X_test)
from sklearn import metrics

print("Gaussian Naive Bayes accuracy:", metrics.accuracy_score(y_test,
y_pred)*100)
```

Output:

Gaussian Naive Bayes accuracy: 94.2982456140351