In [1]:

```
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import LabelEncoder
from sklearn.naive_bayes import GaussianNB
from sklearn.metrics import accuracy_score, confusion_matrix, classification_report
from sklearn import datasets
```

In [2]:

```
# Load Iris dataset
iris = datasets.load_iris()
data = pd.DataFrame(iris.data, columns=iris.feature_names)
data['label'] = iris.target
```

In [3]:

```
# Splitting features and labels
X = data.iloc[:, :-1].values
y = data.iloc[:, -1].values
```

In [4]:

```
# Split dataset into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
```

In [5]:

```
# Train Naïve Bayes classifier
model = GaussianNB()
model.fit(X_train, y_train)
```

Out[5]:

```
▾ GaussianNB
GaussianNB()
```

In [6]:

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

In [7]:

```
# Evaluate model
accuracy = accuracy_score(y_test, y_pred)
print("Accuracy of Naïve Bayes classifier:", accuracy)
```

```
Accuracy of Naïve Bayes classifier: 1.0
```

In [8]:

```
# Display confusion matrix and classification report
print("Confusion Matrix:\n", confusion_matrix(y_test, y_pred))
print("Classification Report:\n", classification_report(y_test, y_pred, target_names=iris.target_names))
```

```
Confusion Matrix:
 [[10  0  0]
 [ 0  9  0]
 [ 0  0 11]]
Classification Report:
               precision    recall  f1-score   support

      setosa       1.00      1.00      1.00        10
  versicolor       1.00      1.00      1.00         9
   virginica       1.00      1.00      1.00        11

    accuracy                           1.00        30
   macro avg       1.00      1.00      1.00        30
weighted avg       1.00      1.00      1.00        30
```