

```

import numpy as np
import pandas as pd
dataset = pd.read_csv('iris.csv')
X = dataset.iloc[:,4].values
y = dataset['variety'].values
#split iris data to test and train
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size = 0.2)
#implement Gaussian
from sklearn.naive_bayes import GaussianNB
classifier = GaussianNB()
classifier.fit(X_train, y_train)
y_pred = classifier.predict(X_test)
print("\n",y_pred,"\n")
# Find the accuracy level of the predicted value
from sklearn.metrics import accuracy_score
print ("\n Accuracy : ", accuracy_score(y_test, y_pred))
# Calculate the number of mislabeled instances
mislabeled_count = (y_test != y_pred).sum()
# Print the number of mislabeled instances
print(f"\n Number of mislabeled points: {mislabeled_count} out of {len(y_test)}")
# List out the class labels of the mismatching records
mismatches = (y_test != y_pred)
print("\n Mismatching records (Actual vs Predicted):")
for actual, predicted in zip(y_test[mismatches], y_pred[mismatches]):
    print(f"Actual: {actual}, Predicted: {predicted}")

```

output

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```
C:\Users\mlm\PycharmProjects\pythonProject1\.venv\Scripts\python.exe
C:\Users\mlm\PycharmProjects\BIBIN\naive.py
```

```
['Setosa' 'Versicolor' 'Versicolor' 'Virginica' 'Virginica' 'Setosa'
'Setosa' 'Versicolor' 'Virginica' 'Versicolor' 'Versicolor' 'Setosa'
'Virginica' 'Setosa' 'Setosa' 'Versicolor' 'Virginica' 'Virginica'
'Setosa' 'Versicolor' 'Versicolor' 'Setosa' 'Virginica' 'Setosa'
'Virginica' 'Setosa' 'Versicolor' 'Versicolor' 'Versicolor' 'Setosa']
```

Accuracy : 0.8333333333333334

Number of mislabeled points: 5 out of 30

Mismatching records (Actual vs Predicted):

Actual: Versicolor, Predicted: Virginica

Actual: Virginica, Predicted: Versicolor

Actual: Versicolor, Predicted: Setosa

Actual: Versicolor, Predicted: Virginica

Actual: Virginica, Predicted: Versicolor

Process finished with exit code 0