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In [3]: import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
import seaborn as sb
```

```
In [7]: col_names = ['Sepal Length', 'Sepal Width', 'Petal Length', 'Petal Width', 'Species']
df = pd.read_csv('https://archive.ics.uci.edu/ml/machine-learning-databases/iris/ir
```

```
In [8]: df.head()
```

```
Out[8]:
```

	Sepal Length	Sepal Width	Petal Length	Petal Width	Species
0	5.1	3.5	1.4	0.2	Iris-setosa
1	4.9	3.0	1.4	0.2	Iris-setosa
2	4.7	3.2	1.3	0.2	Iris-setosa
3	4.6	3.1	1.5	0.2	Iris-setosa
4	5.0	3.6	1.4	0.2	Iris-setosa

```
In [32]: x = df.iloc[:, :4].values
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```
In [33]: y = df['Species'].values
```

```
In [38]: from sklearn.model_selection import train_test_split

x_train, x_test, y_train, y_test = train_test_split(x, y, test_size = 0.33, random_stat

from sklearn.naive_bayes import MultinomialNB
nb = MultinomialNB()
nb.fit(x_train, y_train)
y_pred = nb.predict(x_test)

from sklearn.metrics import accuracy_score, classification_report, confusion_matrix
print('Classification Report')
print('\n')
print(classification_report(y_test, y_pred))
```

Classification Report

	precision	recall	f1-score	support
Iris-setosa	1.00	1.00	1.00	20
Iris-versicolor	1.00	0.75	0.86	16
Iris-virginica	0.78	1.00	0.88	14
accuracy			0.92	50
macro avg	0.93	0.92	0.91	50
weighted avg	0.94	0.92	0.92	50

```
In [39]: print('Accuracy')  
accuracy_score(y_test,y_pred)
```

Accuracy

```
Out[39]: 0.92
```

```
In [40]: print('confusion matrix')  
confusion_matrix(y_test,y_pred)
```

confusion matrix

```
Out[40]: array([[20,  0,  0],  
               [ 0, 12,  4],  
               [ 0,  0, 14]], dtype=int64)
```

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In [ ]:
```