

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import warnings
warnings.simplefilter("ignore")
df=pd.read_csv(r'Iris.csv')
```

```
df.isnull().sum()
```

```
Id          0
SepalLengthCm  0
SepalWidthCm  0
PetalLengthCm  0
PetalWidthCm  0
Species      0
dtype: int64
```

```
df.columns
```

```
Index(['Id', 'SepalLengthCm', 'SepalWidthCm', 'PetalLengthCm', 'PetalWidthCm',
      'Species'],
      dtype='object')
```

```
df=df.drop(columns="Id")
df
```

	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	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
...	...	...	...	...	...
145	6.7	3.0	5.2	2.3	Iris-virginica
146	6.3	2.5	5.0	1.9	Iris-virginica
147	6.5	3.0	5.2	2.0	Iris-virginica
148	6.2	3.4	5.4	2.3	Iris-virginica
149	5.9	3.0	5.1	1.8	Iris-virginica

150 rows × 5 columns

```
df['Species'].value_counts()
```

```
Iris-setosa      50
Iris-versicolor  50
Iris-virginica   50
Name: Species, dtype: int64
```

```
sns.countplot(df['Species']);
```



```
x=df.iloc[:, :4]
y=df.iloc[:, 4]
```

```

from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test=train_test_split(x,y,random_state=0)

x_train.shape

(112, 4)

x_test.shape

(38, 4)

y_train.shape

(112,)

y_test.shape

(38,)

from sklearn.linear_model import LogisticRegression
model=LogisticRegression()
model.fit(x_train,y_train)
y_pred=model.predict(x_test)
y_pred

array(['Iris-virginica', 'Iris-versicolor', 'Iris-setosa',
       'Iris-virginica', 'Iris-setosa', 'Iris-virginica', 'Iris-setosa',
       'Iris-versicolor', 'Iris-versicolor', 'Iris-versicolor',
       'Iris-virginica', 'Iris-versicolor', 'Iris-versicolor',
       'Iris-versicolor', 'Iris-versicolor', 'Iris-setosa',
       'Iris-versicolor', 'Iris-versicolor', 'Iris-setosa', 'Iris-setosa',
       'Iris-virginica', 'Iris-versicolor', 'Iris-setosa', 'Iris-setosa',
       'Iris-virginica', 'Iris-setosa', 'Iris-setosa', 'Iris-versicolor',
       'Iris-versicolor', 'Iris-setosa', 'Iris-virginica',
       'Iris-versicolor', 'Iris-setosa', 'Iris-virginica',
       'Iris-virginica', 'Iris-versicolor', 'Iris-setosa',
       'Iris-virginica'], dtype=object)

from sklearn.metrics import accuracy_score,confusion_matrix
confusion_matrix(y_test,y_pred)

array([[13,  0,  0],
       [ 0, 15,  1],
       [ 0,  0,  9]])

accuracy=accuracy_score(y_test,y_pred)*100
print("Accuracy of the model is {:.2f}".format(accuracy))

Accuracy of the model is 97.37

```