```python
import numpy as np
import pandas as pd
df=pd.read_csv("C:/Users/REC/Iris.csv")
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 5 columns):
 #   Column        Non-Null Count  Dtype
---  ------        --------------  -----
 0   sepal.length  150 non-null    float64
 1   sepal.width   150 non-null    float64
 2   petal.length  150 non-null    float64
 3   petal.width   150 non-null    float64
 4   variety       150 non-null    object
dtypes: float64(4), object(1)
memory usage: 5.3+ KB
```

In [2]:
```python
df.variety.value_counts()
```

Out[2]:
```
Setosa        50
Versicolor    50
Virginica     50
Name: variety, dtype: int64
```

In [3]:
```python
df.head()
```

Out[3]:

	sepal.length	sepal.width	petal.length	petal.width	variety
0	5.1	3.5	1.4	0.2	Setosa
1	4.9	3.0	1.4	0.2	Setosa
2	4.7	3.2	1.3	0.2	Setosa
3	4.6	3.1	1.5	0.2	Setosa
4	5.0	3.6	1.4	0.2	Setosa

In [5]:
```python
features=df.iloc[:,:-1].values
label=df.iloc[:,4].values
from sklearn.model_selection import train_test_split
from sklearn.neighbors import KNeighborsClassifier
xtrain,xtest,ytrain,ytest=train_test_split(features,label,test_size=.2,random_state=42)
model_KNN=KNeighborsClassifier(n_neighbors=5)
model_KNN.fit(xtrain,ytrain)
```

Out[5]:
```
KNeighborsClassifier()
```

In [6]:
```python
print(model_KNN.score(xtrain,ytrain))
print(model_KNN.score(xtest,ytest))
```

```
0.9666666666666667
1.0
```

In [7]:
```python
from sklearn.metrics import confusion_matrix
confusion_matrix(label,model_KNN.predict(features))
```

Out[7]:
```
array([[50,  0,  0],
       [ 0, 47,  3],
       [ 0,  1, 49]], dtype=int64)
```

In [8]:
```python
from sklearn.metrics import classification_report
print(classification_report(label,model_KNN.predict(features)))
```

```
              precision    recall  f1-score   support

      Setosa       1.00      1.00      1.00        50
```

```
  Versicolor       0.98      0.94      0.96        50
   Virginica       0.94      0.98      0.96        50

    accuracy                           0.97       150
   macro avg       0.97      0.97      0.97       150
weighted avg       0.97      0.97      0.97       150
```

In [ ]: