In [1]:
```
from sklearn.datasets import load_iris
import pandas as pd
```

In [2]:
```
data =load_iris()
df=pd.DataFrame(data.data,columns=data.feature_names)
df['Species']=data.target
df
```

Out[2]:

	sepal length (cm)	sepal width (cm)	petal length (cm)	petal width (cm)	Species
0	5.1	3.5	1.4	0.2	0
1	4.9	3.0	1.4	0.2	0
2	4.7	3.2	1.3	0.2	0
3	4.6	3.1	1.5	0.2	0
4	5.0	3.6	1.4	0.2	0
...	...	...	...	...	...
145	6.7	3.0	5.2	2.3	2
146	6.3	2.5	5.0	1.9	2
147	6.5	3.0	5.2	2.0	2
148	6.2	3.4	5.4	2.3	2
149	5.9	3.0	5.1	1.8	2

150 rows × 5 columns

In [3]:
```
x=data.data
y=data.target
```

In [4]:
```
x.shape
```

Out[4]: (150, 4)

In [5]:
```
y.shape
```

Out[5]: (150,)

In [6]:
```
from sklearn.model_selection import train_test_split
xtrain,xtest,ytrain,ytest=train_test_split(x,y,test_size=0.3,random_s
print(xtrain.shape)
print(xtest.shape)
print(ytrain.shape)
print(ytest.shape)
```

```
(105, 4)
(45, 4)
(105,)
(45,)
```

In [7]:
```
from sklearn.tree import DecisionTreeClassifier
dtc=DecisionTreeClassifier()
dtc.fit(xtrain,ytrain)
```

Out[7]:
```
DecisionTreeClassifier
DecisionTreeClassifier()
```

In [8]:
```
predictionDT=dtc.predict(xtest)
predictionDT
```

Out[8]:
```
array([2, 1, 0, 2, 0, 2, 0, 1, 1, 1, 2, 1, 1, 1, 1, 0, 1, 1, 0, 0, 2, 1,
       0, 0, 2, 0, 0, 1, 1, 0, 2, 1, 0, 2, 2, 1, 0, 2, 1, 1, 2, 0, 2, 0,
       0])
```

In [9]:
```
from sklearn.ensemble import RandomForestClassifier
rfc=RandomForestClassifier()
rfc.fit(xtrain,ytrain)
```

Out[9]:
```
RandomForestClassifier
RandomForestClassifier()
```

In [14]:
```
predictionRFC=rfc.predict(xtest)
predictionRFC
```

Out[14]:
```
array([2, 1, 0, 2, 0, 2, 0, 1, 1, 1, 2, 1, 1, 1, 1, 0, 1, 1, 0, 0, 2, 1,
       0, 0, 2, 0, 0, 1, 1, 0, 2, 1, 0, 2, 2, 1, 0, 2, 1, 1, 2, 0, 2, 0,
       0])
```

In [15]:
```
from sklearn.ensemble import BaggingClassifier
model=BaggingClassifier()
model.fit(xtrain,ytrain)
```

Out[15]:
```
BaggingClassifier
BaggingClassifier()
```

In [16]:
```
predictionB=model.predict(xtest)
predictionB
```

Out[16]:
```
array([2, 1, 0, 2, 0, 2, 0, 1, 1, 1, 2, 1, 1, 1, 1, 0, 1, 1, 0, 0, 2, 1,
       0, 0, 2, 0, 0, 1, 1, 0, 2, 1, 0, 2, 2, 1, 0, 2, 1, 1, 2, 0, 2, 0,
       0])
```

In [17]:
```
from sklearn.metrics import accuracy_score
print("Accuracy score of DecisionTreeClassifier = ",
      accuracy_score(ytest,predictionDT))
print("Accuracy score of RandomForestClassifier = ",
      accuracy_score(ytest,predictionRFC))
print("Accuracy score of BaggingClassifier = ",
      accuracy_score(ytest,predictionB))
```

```
Accuracy score of DecisionTreeClassifier =  0.9777777777777777
Accuracy score of RandomForestClassifier =  0.9777777777777777
Accuracy score of BaggingClassifier =  0.9777777777777777
```

In [ ]:
```

```