In [1]:

```
import pandas as pd
```

In [2]:

```
from sklearn.model_selection import train_test_split
```

In [3]:

```
from sklearn.ensemble import RandomForestClassifier
```

In [5]:

```
from sklearn.tree import DecisionTreeClassifier
```

In [6]:

```
from sklearn.metrics import accuracy_score
```

In [8]:

```
data=pd.read_csv("Z:/College/3.2/ML LAB/datasets/iris.csv")
```

In [10]:

```
x=data.drop('Species',axis=1)
```

In [11]:

```
y=data['Species']
```

In [14]:

```
xtrain,xtest,ytrain,ytest=train_test_split(x,y,test_size=0.2,random_state=42)
```

In [18]:

```
rfc = RandomForestClassifier(n_estimators=100, random_state=42)
```

In [19]:

```
rfc.fit(xtrain,ytrain)
```

Out[19]:

```
RandomForestClassifier(bootstrap=True, class_weight=None, criterion='gin
i',
            max_depth=None, max_features='auto', max_leaf_nodes=None,
            min_impurity_decrease=0.0, min_impurity_split=None,
            min_samples_leaf=1, min_samples_split=2,
            min_weight_fraction_leaf=0.0, n_estimators=100, n_jobs=1,
            oob_score=False, random_state=42, verbose=0, warm_start=False)
```

In [20]:

```
rfcpred=rfc.predict(xtest)
```

In [29]:

```
rfcacc=accuracy_score(rfcpred,ytest)
```

In [30]:

```
print("random forest classifier accuracy: ",rfcacc)
```

```
random forest classifier accuracy:  1.0
```

In [23]:

```
#decision tree classifier
dtc=DecisionTreeClassifier(random_state=42)
```

In [24]:

```
dtc.fit(xtrain,ytrain)
```

Out[24]:

```
DecisionTreeClassifier(class_weight=None, criterion='gini', max_depth=Non
e,
            max_features=None, max_leaf_nodes=None,
            min_impurity_decrease=0.0, min_impurity_split=None,
            min_samples_leaf=1, min_samples_split=2,
            min_weight_fraction_leaf=0.0, presort=False, random_state=42,
            splitter='best')
```

In [25]:

```
dtcpred=dtc.predict(xtest)
```

In [26]:

```
dtcacc=accuracy_score(dtcpred,ytest)
```

In [31]:

```
print("Decision tree classifier accuracy: ",dtcacc)
```

```
Decision tree classifier accuracy:  1.0
```