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

In [2]:
```
from sklearn.model_selection import train_test_split
```

In [3]:
```
import numpy as np
```

In [4]:
```
iris=load_iris()
```

In [5]:
```
X_train,X_test, Y_train, Y_test = train_test_split(iris['data'],iris['target'],random_state=0)
```

In [6]:
```
X_train.shape
```

Out[6]:
```
(112, 4)
```

In [7]:
```
X_train
```

Out[7]:
```
array([[5.9, 3. , 4.2, 1.5],
       [5.8, 2.6, 4. , 1.2],
       [6.8, 3. , 5.5, 2.1],
       [4.7, 3.2, 1.3, 0.2],
       [6.9, 3.1, 5.1, 2.3],
       [5. , 3.5, 1.6, 0.6],
       [5.4, 3.7, 1.5, 0.2],
       [5. , 2. , 3.5, 1. ],
       [6.5, 3. , 5.5, 1.8],
       [6.7, 3.3, 5.7, 2.5],
       [6. , 2.2, 5. , 1.5],
       [6.7, 2.5, 5.8, 1.8],
       [5.6, 2.5, 3.9, 1.1],
       [7.7, 3. , 6.1, 2.3],
       [6.3, 3.3, 4.7, 1.6],
       [5.5, 2.4, 3.8, 1.1],
       [6.3, 2.7, 4.9, 1.8],
       [6.3, 2.8, 5.1, 1.5],
       [4.9, 2.5, 4.5, 1.7],
       [6.3, 2.5, 5. , 1.9],
       [7. , 3.2, 4.7, 1.4],
       [6.5, 3. , 5.2, 2. ],
       [6. , 3.4, 4.5, 1.6],
       [4.8, 3.1, 1.6, 0.2],
       [5.8, 2.7, 5.1, 1.9],
       [5.6, 2.7, 4.2, 1.3],
       [5.6, 2.9, 3.6, 1.3],
       [5.5, 2.5, 4. , 1.3],
       [6.1, 3. , 4.6, 1.4],
       [7.2, 3.2, 6. , 1.8],
       [5.3, 3.7, 1.5, 0.2],
       [4.3, 3. , 1.1, 0.1],
       [6.4, 2.7, 5.3, 1.9],
       [5.7, 3. , 4.2, 1.2],
       [5.4, 3.4, 1.7, 0.2],
       [5.7, 4.4, 1.5, 0.4],
       [6.9, 3.1, 4.9, 1.5],
       [4.6, 3.1, 1.5, 0.2],
       [5.9, 3. , 5.1, 1.8],
       [5.1, 2.5, 3. , 1.1],
       [4.6, 3.4, 1.4, 0.3],
       [6.2, 2.2, 4.5, 1.5],
       [7.2, 3.6, 6.1, 2.5],
       [5.7, 2.9, 4.2, 1.3],
       [4.8, 3. , 1.4, 0.1],
       [7.1, 3. , 5.9, 2.1],
       [6.9, 3.2, 5.7, 2.3],
       [6.5, 3. , 5.8, 2.2],
       [6.4, 2.8, 5.6, 2.1],
       [5.1, 3.8, 1.6, 0.2],
       [4.8, 3.4, 1.6, 0.2],
       [6.5, 3.2, 5.1, 2. ],
       [6.7, 3.3, 5.7, 2.1],
       [4.5, 2.3, 1.3, 0.3],
       [6.2, 3.4, 5.4, 2.3],
       [4.9, 3. , 1.4, 0.2],
       [5.7, 2.5, 5. , 2. ],
       [6.9, 3.1, 5.4, 2.1],
       [4.4, 3.2, 1.3, 0.2],
       [5. , 3.6, 1.4, 0.2],
       [7.2, 3. , 5.8, 1.6],
       [5.1, 3.5, 1.4, 0.3],
       [4.4, 3. , 1.3, 0.2],
       [5.4, 3.9, 1.7, 0.4],
       [5.5, 2.3, 4. , 1.3],
       [6.8, 3.2, 5.9, 2.3],
       [7.6, 3. , 6.6, 2.1],
       [5.1, 3.5, 1.4, 0.2],
       [4.9, 3.1, 1.5, 0.2],
       [5.2, 3.4, 1.4, 0.2],
       [5.7, 2.8, 4.5, 1.3],
       [6.6, 3. , 4.4, 1.4],
       [5. , 3.2, 1.2, 0.2],
       [5.1, 3.3, 1.7, 0.5],
       [6.4, 2.9, 4.3, 1.3],
       [5.4, 3.4, 1.5, 0.4],
       [7.7, 2.6, 6.9, 2.3],
       [4.9, 2.4, 3.3, 1. ],
       [7.9, 3.8, 6.4, 2. ],
       [6.7, 3.1, 4.4, 1.4],
       [5.2, 4.1, 1.5, 0.1],
       [6. , 3. , 4.8, 1.8],
       [5.8, 4. , 1.2, 0.2],
       [7.7, 2.8, 6.7, 2. ],
       [5.1, 3.8, 1.5, 0.3],
       [4.7, 3.2, 1.6, 0.2],
       [7.4, 2.8, 6.1, 1.9],
       [5. , 3.3, 1.4, 0.2],
       [6.3, 3.4, 5.6, 2.4],
       [5.7, 2.8, 4.1, 1.3],
       [5.8, 2.7, 3.9, 1.2],
       [5.7, 2.6, 3.5, 1. ],
       [6.4, 3.2, 5.3, 2.3],
       [6.7, 3. , 5.2, 2.3],
       [6.3, 2.5, 4.9, 1.5],
       [6.7, 3. , 5. , 1.7],
       [5. , 3. , 1.6, 0.2],
       [5.5, 2.4, 3.7, 1. ],
       [6.7, 3.1, 5.6, 2.4],
       [5.8, 2.7, 5.1, 1.9],
       [5.1, 3.4, 1.5, 0.2],
       [6.6, 2.9, 4.6, 1.3],
       [5.6, 3. , 4.1, 1.3],
       [5.9, 3.2, 4.8, 1.8],
       [6.3, 2.3, 4.4, 1.3],
       [5.5, 3.5, 1.3, 0.2],
       [5.1, 3.7, 1.5, 0.4],
       [4.9, 3.1, 1.5, 0.1],
       [6.3, 2.9, 5.6, 1.8],
       [5.8, 2.7, 4.1, 1. ],
       [7.7, 3.8, 6.7, 2.2],
       [4.6, 3.2, 1.4, 0.2]])
```

In [8]:
```
Y_train.shape
```

Out[8]:
```
(112,)
```

In [9]:
```
Y_train
```

Out[9]:
```
array([1, 1, 2, 0, 2, 0, 0, 1, 2, 2, 2, 2, 1, 2, 1, 1, 2, 2, 2, 2, 1, 2,
       1, 0, 2, 1, 1, 1, 1, 2, 0, 0, 2, 1, 0, 0, 1, 0, 2, 1, 0, 1, 2, 1,
       0, 2, 2, 2, 2, 2, 0, 0, 2, 2, 0, 2, 0, 2, 2, 0, 0, 2, 0, 0, 0, 1, 2,
       2, 0, 0, 0, 1, 1, 0, 0, 1, 0, 2, 1, 2, 1, 0, 2, 0, 2, 0, 0, 2, 0,
       2, 1, 1, 1, 2, 2, 1, 1, 0, 1, 2, 2, 0, 1, 1, 1, 1, 0, 0, 0, 2, 1,
       2, 0])
```

In [10]:
```
X_test
```

Out[10]:
```
array([[5.8, 2.8, 5.1, 2.4],
       [6. , 2.2, 4. , 1. ],
       [5.5, 4.2, 1.4, 0.2],
       [7.3, 2.9, 6.3, 1.8],
       [5. , 3.4, 1.5, 0.2],
       [6.3, 3.3, 6. , 2.5],
       [5. , 3.5, 1.3, 0.3],
       [6.7, 3.1, 4.7, 1.5],
       [6.8, 2.8, 4.8, 1.4],
       [6.1, 2.8, 4. , 1.3],
       [6.1, 2.6, 5.6, 1.4],
       [6.4, 3.2, 4.5, 1.5],
       [6.1, 2.8, 4.7, 1.2],
       [6.5, 2.8, 4.6, 1.5],
       [6.1, 2.9, 4.7, 1.4],
       [4.9, 3.6, 1.4, 0.1],
       [6. , 2.9, 4.5, 1.5],
       [5.5, 2.6, 4.4, 1.2],
       [4.8, 3. , 1.4, 0.3],
       [5.4, 3.9, 1.3, 0.4],
       [5.6, 2.8, 4.9, 2. ],
       [5.6, 3. , 4.5, 1.5],
       [4.8, 3.4, 1.9, 0.2],
       [4.4, 2.9, 1.4, 0.2],
       [6.2, 2.8, 4.8, 1.8],
       [4.6, 3.6, 1. , 0.2],
       [5.1, 3.8, 1.9, 0.4],
       [6.2, 2.9, 4.3, 1.3],
       [5. , 2.3, 3.3, 1. ],
       [5. , 3.4, 1.6, 0.4],
       [6.4, 3.1, 5.5, 1.8],
       [5.4, 3. , 4.5, 1.5],
       [5.2, 3.5, 1.5, 0.2],
       [6.1, 3. , 4.9, 1.8],
       [6.4, 2.8, 5.6, 2.2],
       [5.2, 2.7, 3.9, 1.4],
       [5.7, 3.8, 1.7, 0.3],
       [6. , 2.7, 5.1, 1.6]])
```

In [11]:
```
X_test.shape
```

Out[11]:
```
(38, 4)
```

In [12]:
```
Y_test.shape
```

Out[12]:
```
(38,)
```

In [13]:
```
Y_test
```

Out[13]:
```
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, 1])
```

In [ ]:
```

```