

Ex.No-12**Unsupervised Learning – Clustering****Aim:**

To implement unsupervised learning-clustering using any predefined dataset

Description:

- Unsupervised learning don't have any target/outcome variable to predict /estimate.
- it is used for clustering population in different groups, which is widely used for segmenting customers in different groups
- Ex. Apriori algorithm , K-means

Program:

```
# Importing Modules
```

```
from sklearn import datasets
```

```
import matplotlib.pyplot as plt
```

```
# Loading dataset
```

```
iris_df = datasets.load_iris()
```

```
# Available methods on dataset
```

```
print("Methods:\n",dir(iris_df))
```

```
# Features
```

```
print("\nFeatures:\n",iris_df.feature_names)
```

```
# Targets
```

```
print("\nTargets:\n",iris_df.target)
```

```
# Target Names
```

```
print("\nTarget names:\n",iris_df.target_names)
```

```
label = {0: 'red', 1: 'blue', 2: 'green'}
```

Output:

```
['DESCR', 'data', 'data_module', 'feature_names', 'filename', 'frame', 'target', 'target_names']
```

```
['sepal length (cm)', 'sepal width (cm)', 'petal length (cm)', 'petal width (cm)']
```

```
[0000000000000000000000000000000000000000  
0000000000000111111111111111111111111111  
111111111111111111111111111111112222222222  
2222222222222222222222222222222222222222  
22]
```

['setosa' 'versicolor' 'virginica']

The programs were run successfully