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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'}



```
# Dataset Slicing
x_axis = iris_df.data[:, 0] # Sepal Length
y_axis = iris_df.data[:, 2] # Sepal Width
# Plotting
plt.scatter(x_axis, y_axis, c=iris_df.target)
plt.show()
Output:
Methods:
['DESCR', 'data', 'data_module', 'feature_names', 'filename', 'frame', 'target', 'target_names']
Features:
['sepal length (cm)', 'sepal width (cm)', 'petal length (cm)', 'petal width (cm)']
Targets:
11111111111111111111111111122222222222
2 2]
Target names:
['setosa' 'versicolor' 'virginica']
```



The programs were run successfully

Result: