Assignment 3: Split sample data into training and test sets. (Use suitable data set).

```
Code =>
# Import necessary libraries

import pandas as pd
from sklearn import datasets
from sklearn.model_selection import train_test_split

# Load the Iris dataset
iris = datasets.load_iris()
X = pd.DataFrame(iris.data, columns=iris.feature_names)
y = pd.DataFrame(iris.target, columns=['Target'])

# Display first few rows
print("First 5 rows of data:")
print(X.head())

# Split data into training and test sets (70% training, 30% testing)
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3,
random_state=42)

# Display results
print(f"\nTotal Samples: {len(X)}")
print(f"Training Samples: {len(X_train)}")
print(f"Test Samples: {len(X_test)}")
```

```
Output =>


[Running] python -u "c:\Users\Shreyash
Musmade\Desktop\Practical\AICS\AICS_Prac-3\Practical.py"
First 5 rows of data:
   sepal length (cm)  sepal width (cm)  petal length (cm)  petal width (cm)
0                5.1               3.5                1.4               0.2
1                4.9               3.0                1.4               0.2
2                4.7               3.2                1.3               0.2
3                4.6               3.1                1.5               0.2
4                5.0               3.6                1.4               0.2


Total Samples: 150
Training Samples: 105
Test Samples: 45

[Done] exited with code=0 in 1.236 seconds
```