1. Write python code to load and display IRIS dataset.

```python
from sklearn import datasets
import pandas as pd
iris = datasets.load_iris()
X = iris.data
y = iris.target
feature_names = iris.feature_names
target_names = iris.target_names
df = pd.DataFrame(X, columns=feature_names)
df['target'] = y
df['target_name'] = [target_names[i] for i in y]
print(df.head(10))
```

Output :

```
   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
5                5.4               3.9                1.7               0.4
6                4.6               3.4                1.4               0.3
7                5.0               3.4                1.5               0.2
8                4.4               2.9                1.4               0.2
9                4.9               3.1                1.5               0.1

   target target_name
0       0      setosa
1       0      setosa
2       0      setosa
3       0      setosa
4       0      setosa
5       0      setosa
6       0      setosa
7       0      setosa
8       0      setosa
9       0      setosa
```
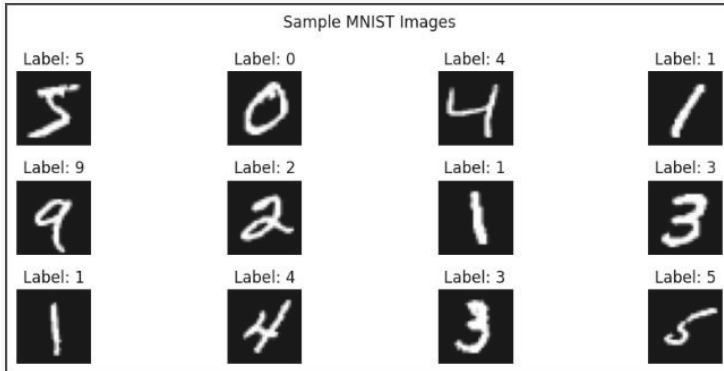
2. Write python code to load and display MNIST dataset.

```python
import matplotlib.pyplot as plt
from sklearn.datasets import fetch_openml
mnist = fetch_openml('mnist_784', version=1, as_frame=False) X =
mnist.data
y = mnist.target.astype(int)
plt.figure(figsize=(10, 4))
for i in range(12):
    plt.subplot(3, 4, i + 1)
    image = X[i].reshape(28, 28)
    plt.imshow(image, cmap='gray')
    plt.title(f"Label: {y[i]}")
    plt.axis('off')
```

```
plt.suptitle("Sample MNIST Images")
plt.tight_layout()
plt.show()
```

Output :

Sample MNIST Images

3. **Write python code to load and display WINE dataset.**

```
import pandas as pd

from sklearn.datasets import load_wine

wine = load_wine()
X = wine.data
y = wine.target
feature_names = wine.feature_names
target_names = wine.target_names

df = pd.DataFrame(X, columns=feature_names)
df['target'] = y
df['target_name'] = [target_names[i] for i in y]

print(df.head())
```

Output :

```
   alcohol  malic_acid   ash  alcalinity_of_ash  magnesium  total_phenols  \
0    14.23        1.71  2.43               15.6      127.0           2.80
1    13.20        1.78  2.14               11.2      100.0           2.65
2    13.16        2.36  2.67               18.6      101.0           2.80
3    14.37        1.95  2.50               16.8      113.0           3.85
4    13.24        2.59  2.87               21.0      118.0           2.80

   flavanoids  nonflavanoid_phenols  proanthocyanins  color_intensity   hue  \
0        3.06                  0.28             2.29             5.64  1.04
1        2.76                  0.26             1.28             4.38  1.05
2        3.24                  0.30             2.81             5.68  1.03
3        3.49                  0.24             2.18             7.80  0.86
4        2.69                  0.39             1.82             4.32  1.04

   od280/od315_of_diluted_wines  proline  target target_name
0                          3.92   1065.0       0     class_0
1                          3.40   1050.0       0     class_0
2                          3.17   1185.0       0     class_0
3                          3.45   1480.0       0     class_0
4                          2.93    735.0       0     class_0
```