Fashion MNIST Data Classification Project

By - Mohd Nabeel Shamsi

Step 1) Import Libraries

```
%matplotlib inline
import numpy as np
import matplotlib.pyplot as plt
import tensorflow as tf
import keras
import os
```

Step 2) Load data

```
(X_train, y_train), (X_test, y_test)=keras.datasets.fashion_mnist.load_data()
```

```
Downloading data from https://storage.googleapis.com/tensorflow/tf-keras-datasets/train-labels-idx1-ubyte.gz
Downloading data from https://storage.googleapis.com/tensorflow/tf-keras-datasets/train-images-idx3-ubyte.gz
Downloading data from https://storage.googleapis.com/tensorflow/tf-keras-datasets/t10k-labels-idx1-ubyte.gz
Downloading data from https://storage.googleapis.com/tensorflow/tf-keras-datasets/t10k-images-idx3-ubyte.gz
```

```
# Print the shape of data
X_train.shape, y_train.shape, X_test.shape, y_test.shape
```

```
((60000, 28, 28), (60000,), (10000, 28, 28), (10000,))
```

```
X_train[0]
```

```
array([[  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   1,
        0,   0,  13,  73,   0,   0,   1,   4,   0,   0,   0,   0,   1,
        1,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   1,
        4,   6,  22, 136,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,  11, 190,  12,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,  20, 223,  12,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,  10, 181,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   1, 137,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0, 174,   4,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0, 220,  17,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0, 239,  94,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0, 210, 132,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0, 123, 163,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0, 201,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0],
       [  0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,   0,
        0,   0,   0,   0, 228
```