```
from google.colab import drive
drive.mount('/content/drive')
```

```
Mounted at /content/drive
```

```
!unzip "/content/drive/MyDrive/Nutrition Image Analysis using CNN and Rapid API-20221103T055609Z-001.zip"
```

```
  inflating: Nutrition Image Analysis using CNN and Rapid API/Nutrition Analysis Using Image Classification/Training/D
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/APPLES/n07740461_10074.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/226_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/236_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/23_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/228_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/227_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/234_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/ORANGE/n07749192_4808.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/225_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/221_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/233_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/245_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/231_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/232_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/220_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/22_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/223_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/239_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/214_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/224_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/229_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/217_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/212_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/219_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/222_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/216_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/218_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/215_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/20_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/ORANGE/n07749192_479.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/200_100.jpg
  inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/198_100.jpg
```

```
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/1_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/208_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/21_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Nutrition Analysis Using Image Classification/Training/D
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/195_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/204_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/73_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/19_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/190_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/192_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/184_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/179_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/199_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/194_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/181_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/187_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/193_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/197_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/177_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/18_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/180_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Nutrition Analysis Using Image Classification/Training/D
inflating: Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET/WATERMELON/17_100.jpg
inflating: Nutrition Image Analysis using CNN and Rapid API/Nutrition Analysis Using Image Classification/Training/D
```

```
pip install keras
```

```
Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/simple/
Requirement already satisfied: keras in /usr/local/lib/python3.7/dist-packages (2.9.0)
```

Import The ImageDataGenerator Library

```
from keras.preprocessing.image import ImageDataGenerator
```

Configure ImageDataGenerator Class

```
train_datagen=ImageDataGenerator(rescale=1./255,shear_range=0.2,zoom_range=0.2,horizontal_flip=True)
test_datagen=ImageDataGenerator(rescale=1./255)
```

Apply Image DataGenerator Functionality To Trainset And Testset

```
x_train=train_datagen.flow_from_directory(r'/content/Nutrition Image Analysis using CNN and Rapid API/Dataset/TRAIN_SET',tar
x_test=train_datagen.flow_from_directory(r'/content/Nutrition Image Analysis using CNN and Rapid API/Dataset/TEST_SET',targe
```

```
Found 4118 images belonging to 5 classes.
Found 929 images belonging to 5 classes.
```

```
print(x_train.class_indices)
```

```
{'APPLES': 0, 'BANANA': 1, 'ORANGE': 2, 'PINEAPPLE': 3, 'WATERMELON': 4}
```

```
print(x_test.class_indices)
```

```
{'APPLES': 0, 'BANANA': 1, 'ORANGE': 2, 'PINEAPPLE': 3, 'WATERMELON': 4}
```

```
from collections import Counter as c
c(x_train .labels)
```

```
Counter({0: 995, 1: 1354, 2: 1019, 3: 275, 4: 475})
```

Importing the Libraries:

```
import numpy as np
import tensorflow
from tensorflow.keras.models import Sequential
from tensorflow.keras import layers
from tensorflow.keras.layers import Dense, Flatten
from tensorflow.keras.layers import Conv2D, MaxPooling2D, Dropout
from keras.preprocessing.image import ImageDataGenerator
```