```
import numpy as np#used for numerical analysis
import tensorflow #open source used for both ML and DL for computation
from tensorflow.keras.models import Sequential #it is a plain stack of
layers
from tensorflow.keras import layers #A layer consists of a tensor-in
tensor-out computation function
#Dense layer is the regular deeply connected neural network layer
from tensorflow.keras.layers import Dense,Flatten
#Faltten-used fot flattening the input or change the dimension
from tensorflow.keras.layers import Conv2D,MaxPooling2D,Dropout
#Convolutional layer
#MaxPooling2D-for downsampling the image
from keras.preprocessing.image import ImageDataGenerator
```

In [2]:

```
#setting parameter for Image Data agumentation to the training data
train_datagen =
ImageDataGenerator(rescale=1./255,shear_range=0.2,zoom_range=0.2,horizontal
_flip=True)
#Image Data agumentation to the testing data
test_datagen=ImageDataGenerator(rescale=1./255)
```

In [3]:

```
#performing data agumentation to train data
x_train = train_datagen.flow_from_directory(
    r'C:\Users\Harithan\IBM_Proj\Dataset\TRAIN_SET',
    target_size=(64, 64),batch_size=5,color_mode='rgb',class_mode='sparse')
#performing data agumentation to test data
x_test = test_datagen.flow_from_directory(
    r'C:\Users\Harithan\IBM_Proj\Dataset\TEST_SET',
    target_size=(64, 64),batch_size=5,color_mode='rgb',class_mode='sparse')
```

```
Found 730 images belonging to 4 classes.
Found 748 images belonging to 5 classes.
```