**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

*#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)

*#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.