Date	3 November 2022
Team ID	PNT2022TMID14463
Project Name	Real time Communication Powered by AI for specially abled
Maximum Marks	8 Marks

Image Preprocessing

Applying ImageDataGenerator Functionality To Train And Test Set

```
from tensorflow.keras.preprocessing.image import

ImageDataGenerator# Testing Datagen

test_datagen =

ImageDataGenerator(rescale=1/255)# Training

Datagen

train_datagen =
ImageDataGenerator(rescale=1/255,zoom_range=0.2,horizontal_flip=True,vertical_flip=False)

# Training Dataset

x_train=train_datagen.flow_from_directory(r'/content/drive/MyDrive/Dataset/training_set',target_si

ze
=(64,64),

class_mode='categorical',batch_size=900)#

Testing Dataset

x_test=test_datagen.flow_from_directory(r'/content/drive/MyDrive/Dataset/test_set',target_size=(6
4,6 4), class_mode='categorical',batch_size=900)

print("Len x-train :

",len(x_train))print("Len x-test

: ", len(x_test))

# The Class Indices in Training

Datasetx_train.class_indices

traindf=pd.read_csv('/content/drive/images_and_labels.txt',dtype=str,sep
```

='\s') traindf.columns = ['image','label','none1','none2','none3']

traindf.drop(['none1', 'none2','none3'], axis=1)

datagen=ImageDataGenerator(rescale=1./255.,validation_split=0.25)

```
train_generator=datagen.flow_from_datafra
me (
 dataframe=traindf,
 directory="/content/drive/",
 x_col="image",
 y_col="label",
 subset="training",
 batch_size=32,
 seed=42,
 shuffle=Tru
 e,
 class_mode="categorical",
 target_size=(150,150)
)
validation_generator=datagen.flow_from_datafra
me (
 dataframe=traindf,
 directory="/content/drive/",
 x_col="image",
 y_col="label",
 subset="validation",
 batch_size=32,
 seed=42,
 shuffle=Tru
 e,
 class_mode="categorical",
 target_size=(150,150)
```

)