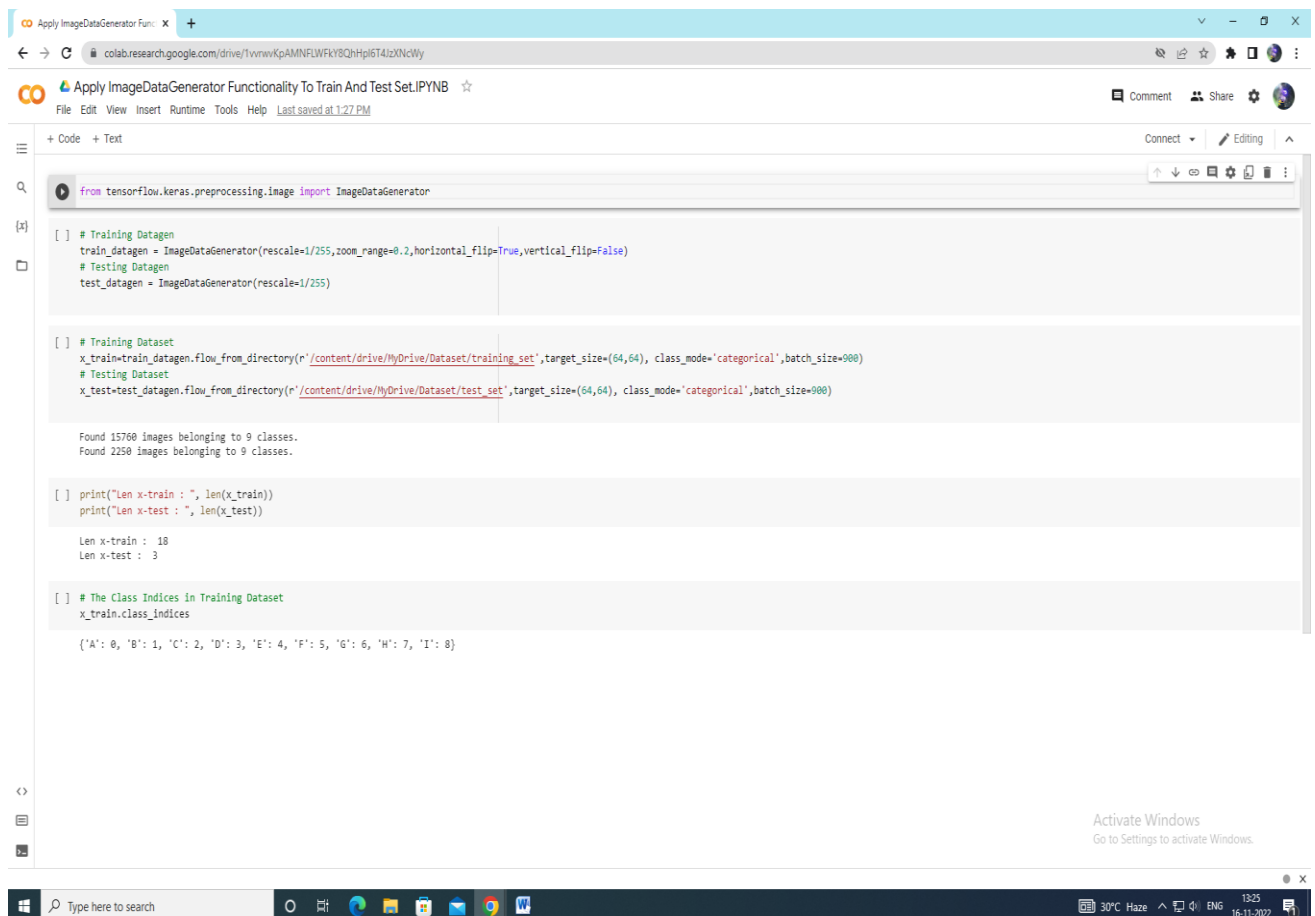


Project Development - Delivery Of Sprint-1

STEP 1: In this, we will be collecting data for building our project. We will be creating two folders one for training and the other for testing. Images present in the training folder will be used for building the model and the testing images will be used for validating our model.



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

# Training Datasets
train_datagen = ImageDataGenerator(rescale=1/255, zoom_range=0.2, horizontal_flip=True, vertical_flip=False)
# Testing Datasets
test_datagen = ImageDataGenerator(rescale=1/255)

# Training Dataset
x_train=train_datagen.flow_from_directory(r"/content/drive/MyDrive/Dataset/training_set",target_size=(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=(64,64), class_mode='categorical',batch_size=900)

Found 15760 images belonging to 9 classes.
Found 2250 images belonging to 9 classes.

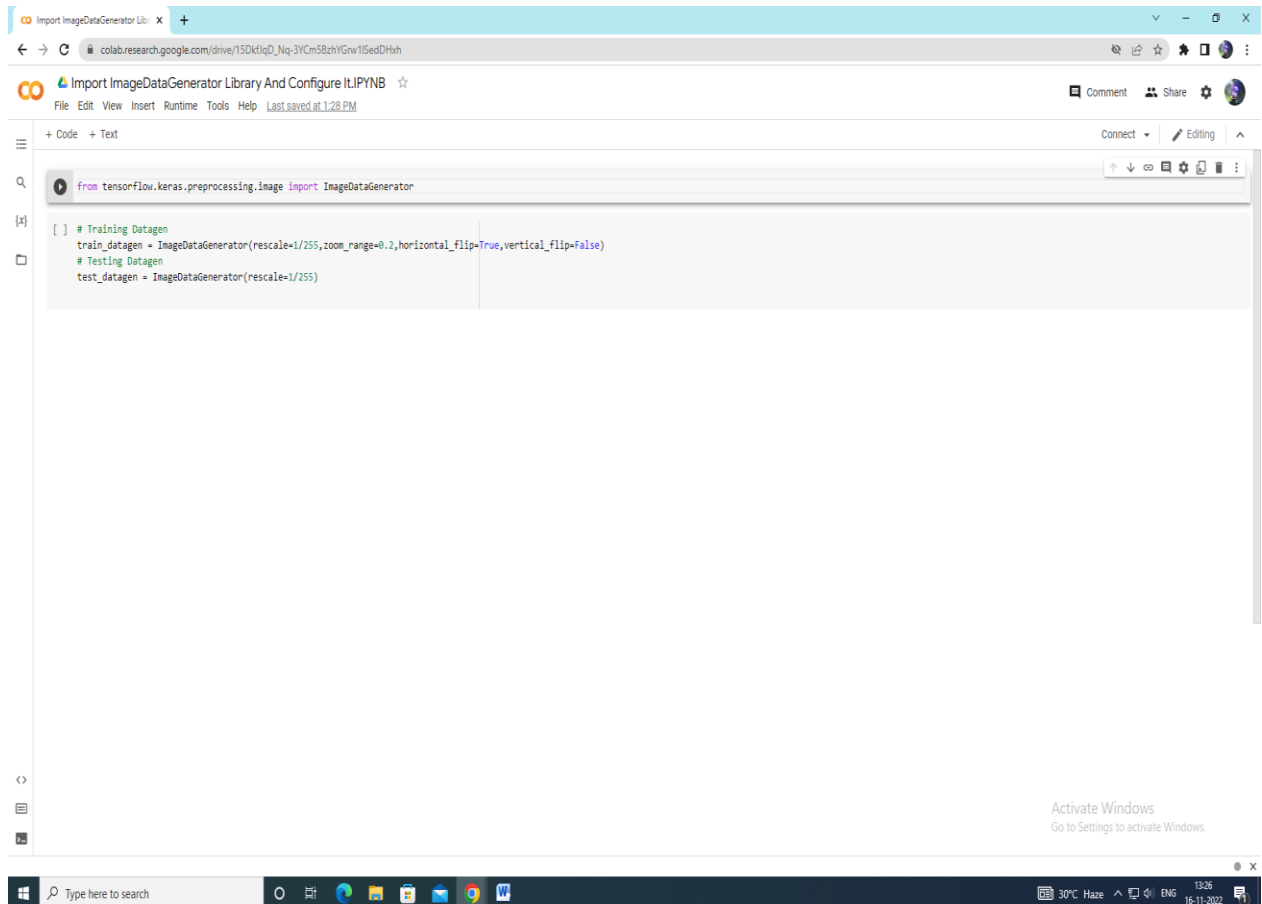
[ ] print("Len x-train : ", len(x_train))
print("Len x-test : ", len(x_test))

Len x-train : 18
Len x-test : 3

# The Class Indices in Training Dataset
x_train.class_indices

{'A': 0, 'B': 1, 'C': 2, 'D': 3, 'E': 4, 'F': 5, 'G': 6, 'H': 7, 'I': 8}
```

STEP 2: We will pre-process the images which will be used for building the model. Image pre-processing includes zooming, shearing, flipping to increase the robustness of the model after it is built. We will be using the Keras package for pre-processing images.



The screenshot displays a Jupyter Notebook environment within a web browser. The browser's address bar shows a Google Drive link. The notebook's title bar reads "Import ImageDataGenerator Library And Configure It.IPYNB". The code editor contains the following Python code:

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

[ ] # Training Datagen
train_datagen = ImageDataGenerator(rescale=1/255, zoom_range=0.2, horizontal_flip=True, vertical_flip=False)
# Testing Datagen
test_datagen = ImageDataGenerator(rescale=1/255)
```

The interface includes a left sidebar with icons for file management, a top menu bar with options like "File", "Edit", and "View", and a bottom Windows taskbar showing the system clock as 13:26 on 16-11-2022.