Team ID: PNT2022TMID44653

Date: 27 Oct 2022

## Sprint - 1

#Extracting Data

```
!unzip "/content/drive/MyDrive/IBM Project /Data Collection.zip"
      inflating: Dataset/TRAIN_SET/BANANA/UQ8WVE40TKQT.jpg
\Box
      inflating: Dataset/TRAIN_SET/BANANA/U9L0M50SX7UY.jpg
      inflating: Dataset/TRAIN_SET/WATERMELON/105_100.jpg
      inflating: Dataset/TRAIN_SET/BANANA/NTMVQC3QY01T.jpg
      inflating: Dataset/TRAIN_SET/BANANA/4CAYT57RPCZR.jpg
      inflating: Dataset/TRAIN SET/WATERMELON/109 100.jpg
      inflating: Dataset/TEST_SET/APPLES/n07740461_1631.jpg
      inflating: Dataset/TRAIN SET/WATERMELON/102 100.jpg
      inflating: Dataset/TRAIN SET/BANANA/CFPSZIW4EJWZ.jpg
      inflating: Dataset/TRAIN_SET/BANANA/WWT1X928HGLW.jpg
      inflating: Dataset/TRAIN SET/WATERMELON/107 100.jpg
      inflating: Dataset/TRAIN SET/BANANA/6KXWP60FUPXC.jpg
      inflating: Dataset/TRAIN SET/WATERMELON/108 100.jpg
      inflating: Dataset/TRAIN SET/BANANA/UV139XHJ9RWZ.jpg
      inflating: Dataset/TEST SET/APPLES/n07740461 2151.jpg
      inflating: Dataset/TRAIN SET/WATERMELON/106 100.jpg
      inflating: Dataset/TEST SET/APPLES/n07740461 1790.jpg
      inflating: Dataset/TRAIN SET/BANANA/SR9CDWUD98US.jpg
      inflating: Dataset/TRAIN SET/BANANA/Q1R0BH5JJXC6.jpg
      inflating: Dataset/TRAIN SET/BANANA/RD9Z0R45PFZS.jpg
      inflating: Dataset/TEST SET/APPLES/n07740461 2431.jpg
      inflating: Dataset/TEST_SET/APPLES/n07740461_2510.jpg
      inflating: Dataset/TRAIN SET/BANANA/JR6B6MP1UU9X.jpg
      inflating: Dataset/TEST SET/APPLES/n07740461 1661.jpg
      inflating: Dataset/TEST SET/APPLES/n07740461 15010.jpg
      inflating: Dataset/TEST_SET/APPLES/n07740461_14760.jpg
      inflating: Dataset/TRAIN SET/BANANA/KY405972A06C.jpg
      inflating: Dataset/TRAIN SET/WATERMELON/100 100.jpg
      inflating: Dataset/TEST SET/APPLES/n07740461 2500.jpg
      inflating: Dataset/TRAIN SET/BANANA/Q79783IE1RHB.jpg
      inflating: Dataset/TEST SET/APPLES/n07740461 14860.jpg
      inflating: Dataset/TRAIN SET/BANANA/WQJ4QGAZ5CLC.jpg
      inflating: Dataset/TRAIN SET/BANANA/GYWMIFK6GIBR.jpg
      inflating: Dataset/TRAIN_SET/WATERMELON/0_100.jpg
      inflating: Dataset/TRAIN SET/BANANA/MO1DUBRZ7GTH.jpg
      inflating: Dataset/TEST_SET/APPLES/n07740461_14960.jpg
      inflating: Dataset/TRAIN_SET/BANANA/H9Z8JHLM4YLO.jpg
      inflating: Dataset/TEST SET/APPLES/n07740461 14750.jpg
      inflating: Dataset/TEST_SET/APPLES/n07740461_14931.jpg
      inflating: Dataset/TEST SET/APPLES/n07740461 230.jpg
      inflating: Dataset/TRAIN_SET/BANANA/RN5DSQI6VVTU.jpg
      inflating: Dataset/TRAIN_SET/BANANA/75DL7QKNARYS.jpg
```

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```
INTIATING: DATASET/IKAIN SEI/WAIEKMELUN/IOI 100.]pg
inflating: Dataset/TEST_SET/APPLES/n07740461_1780.jpg
inflating: Dataset/TEST SET/APPLES/n07740461 1840.jpg
inflating: Dataset/TRAIN SET/WATERMELON/103 100.jpg
inflating: Dataset/TRAIN SET/BANANA/XVM157M1U3HC.jpg
inflating: Dataset/TRAIN SET/BANANA/QHMITLVN0AQX.jpg
inflating: Dataset/TRAIN SET/BANANA/2V3U7PN2JWFL.jpg
inflating: Dataset/TEST_SET/APPLES/n07740461_1990.jpg
inflating: Dataset/TRAIN SET/BANANA/DSBLPX0J00YY.ipg
inflating: Dataset/TEST SET/APPLES/n07740461 15051.jpg
inflating: Dataset/TEST_SET/APPLES/n07740461_14821.jpg
inflating: Dataset/TEST SET/APPLES/n07740461 2520.jpg
inflating: Dataset/TRAIN_SET/BANANA/GQR1P2WIXOFR.jpg
inflating: Dataset/TRAIN SET/BANANA/WVRO4ILPJYT9.jpg
inflating: Dataset/TRAIN SET/BANANA/1MP5FUTN7ZPQ.jpg
inflating: Dataset/TRAIN_SET/BANANA/TZOXZQ8FJC2S.jpg
```

## Image Augmentation / PreProcessing:

```
#Import req. Lib.
from tensorflow.keras.preprocessing.image import ImageDataGenerator
#Augmentation On Training Variable
train datagen = ImageDataGenerator(rescale= 1./255,
                 zoom range=0.2,
                 horizontal flip =True)
#Augmentation On Testing Variable
test datagen = ImageDataGenerator(rescale= 1./255)
#Augmentation On Training Variable
ftrain = train datagen.flow from directory('/content/Dataset/TRAIN SET',
                                           target size=(64,64),
                                           class mode='categorical',
                                           batch size=100)
     Found 4118 images belonging to 5 classes.
#Augmentation On Training Variable
ftest = test datagen.flow from directory('/content/Dataset/TEST SET',
                                          target size=(64,64),
                                          class_mode='categorical',
                                          batch size=100)
```

Found 929 images belonging to 5 classes.

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