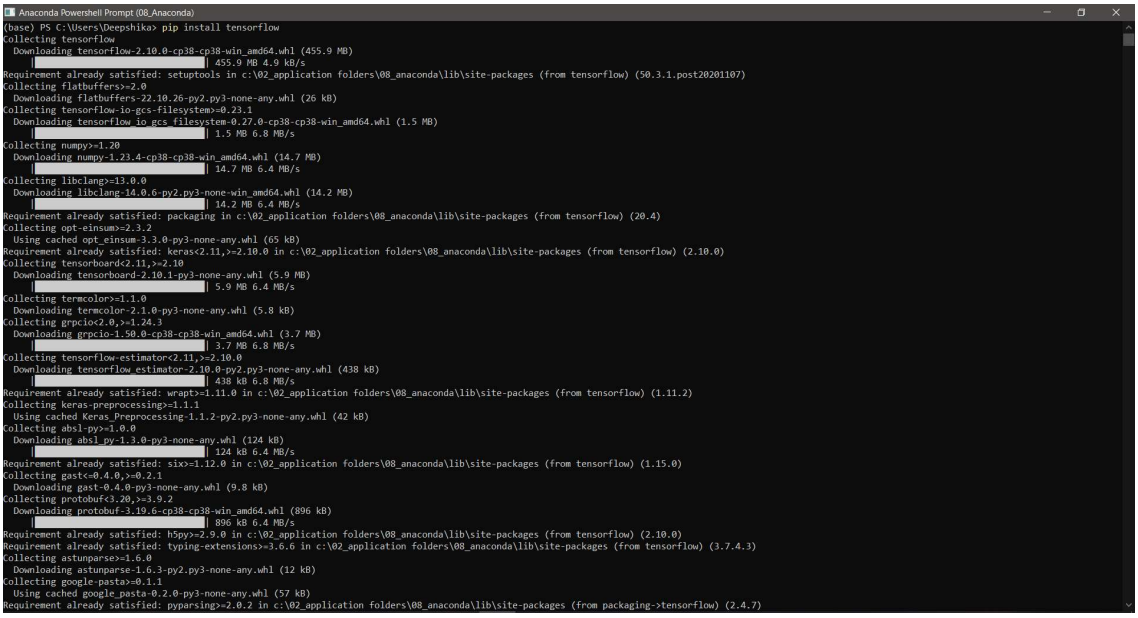
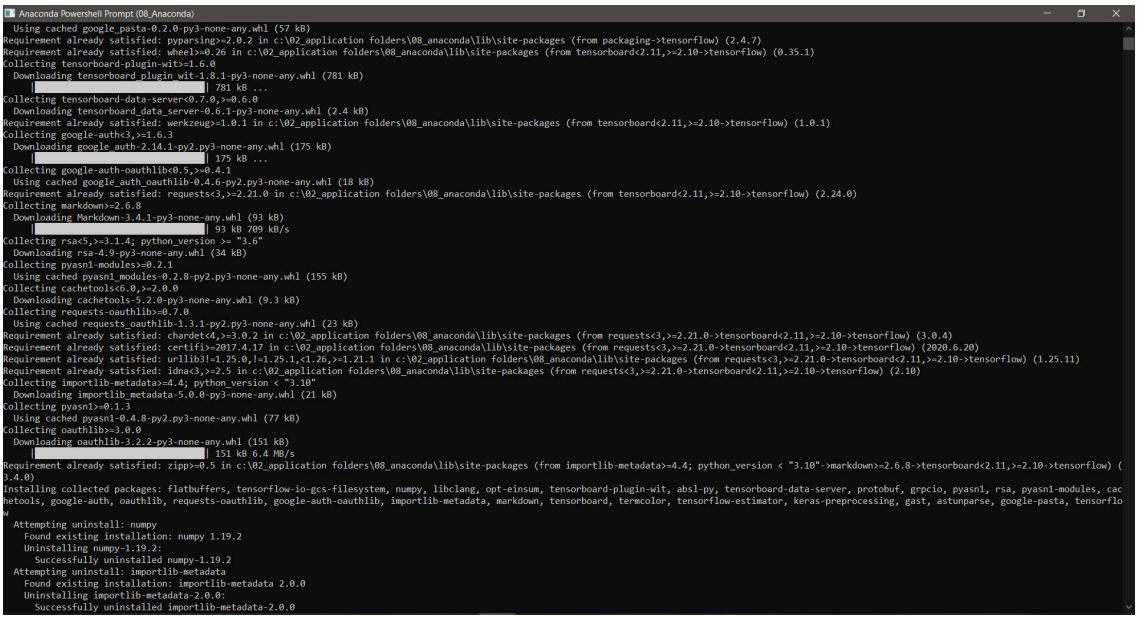
Image Preprocessing

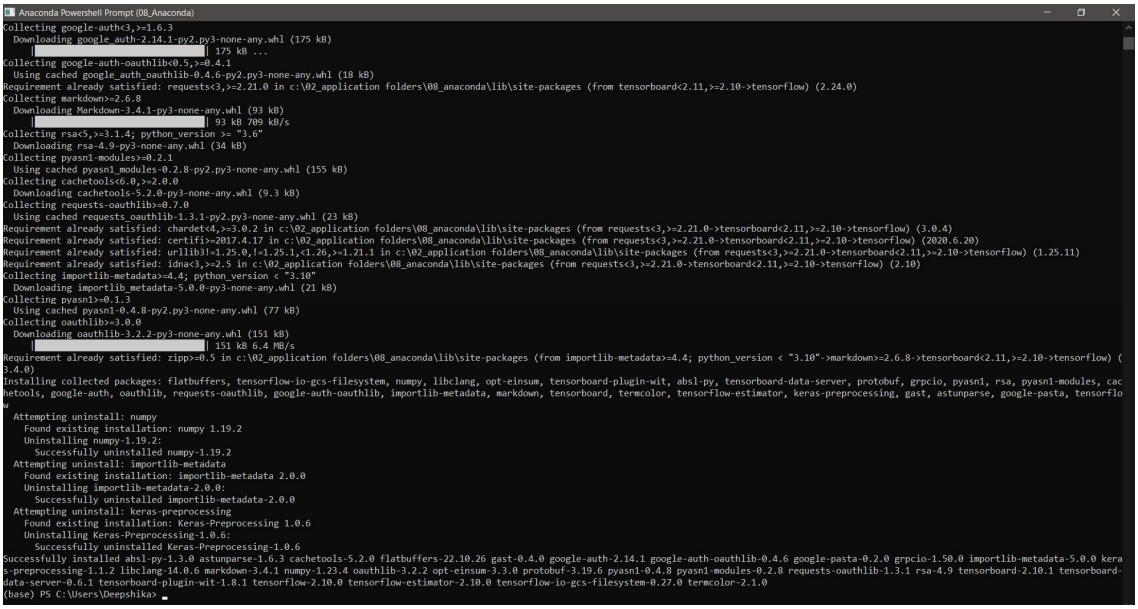
Date	12 October 2022
Team ID	PNT2022TMID35969
Project Name	AI-powered Nutrition Analyzer for Fitness Enthusiasts

Import ImageDataGenerator Library

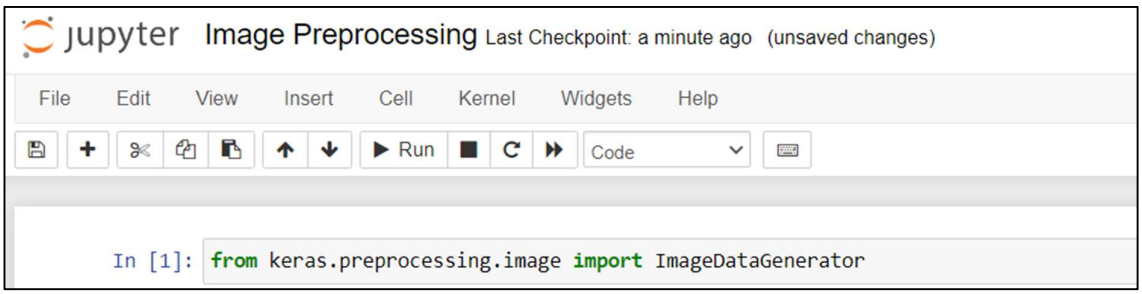
```
pip install tensorflow
```

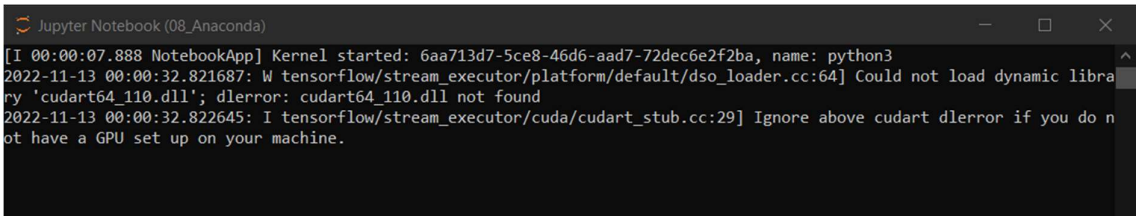




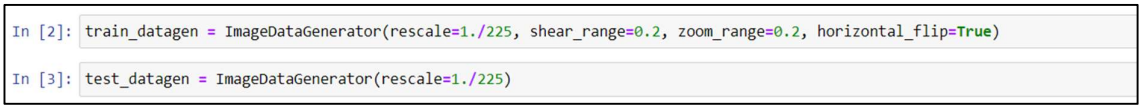



```
from keras.preprocessing.image import ImageDataGenerator
```





Configure ImageDataGenerator Class



Apply ImageDataGenerator Functionality to Train Set and Test Set

1. Performing Data Augmentation

```
# Data Augmentation of Train Set
x_train = train_datagen.flow_from_directory
(r'C:\Users\Deepshika\TRAIN_SET',target_size=(64,64),batch_size=5,color
_mode='rgb',class_mode='sparse')

# Data Augmentation of Test Set
x_test = train_datagen.flow_from_directory
(r'C:\Users\Deepshika\TEST_SET',target_size=(64,64),batch_size=5,color_
mode='rgb',class_mode='sparse')
```

2. Check Number of Classes in Datasets

```
# Train Set
print(x_train.class_indices)

# Test Set
print(x_test.class_indices)
```

Check Number of Classes

```
# Train Set
print(x_train.class_indices)
```

```
{'APPLES': 0, 'BANANA': 1, 'ORANGE': 2, 'PINEAPPLE': 3, 'WATERMELON': 4}
```

```
# Test Set
print(x_test.class_indices)
```

```
{'APPLES': 0, 'BANANA': 1, 'ORANGE': 2, 'PINEAPPLE': 3, 'WATERMELON': 4}
```

3. Number of Images in Each Class

```
from collections import Counter as c
# Train Set
c(x_train.labels)

# Test Set
c(x_test.labels)
```

Number of Images in Each Class

```
from collections import Counter as c
# Train Set
c(x_train.labels)
```

```
Counter({0: 606, 1: 445, 2: 479, 3: 621, 4: 475})
```

```
# Test Set
c(x_test.labels)
```

```
Counter({0: 157, 1: 287, 2: 160, 3: 294, 4: 157})
```