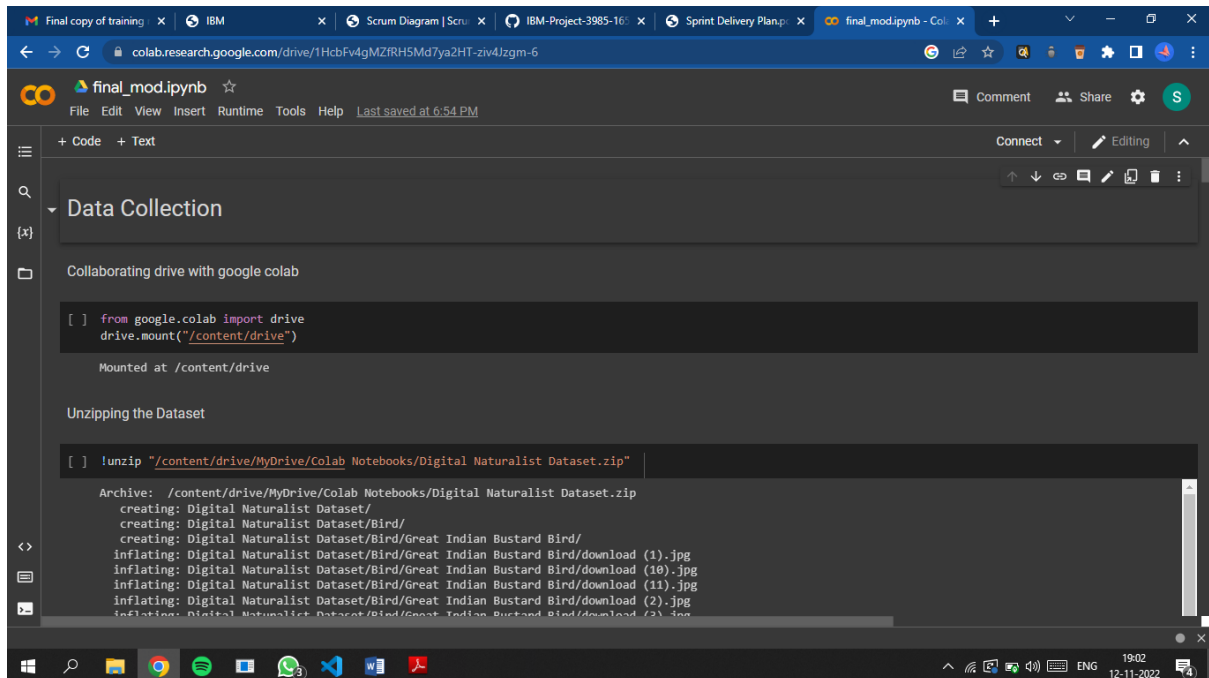


DATA COLLECTION AND DIGITALIZING FOR ANALYZING

DATA COLLECITON:



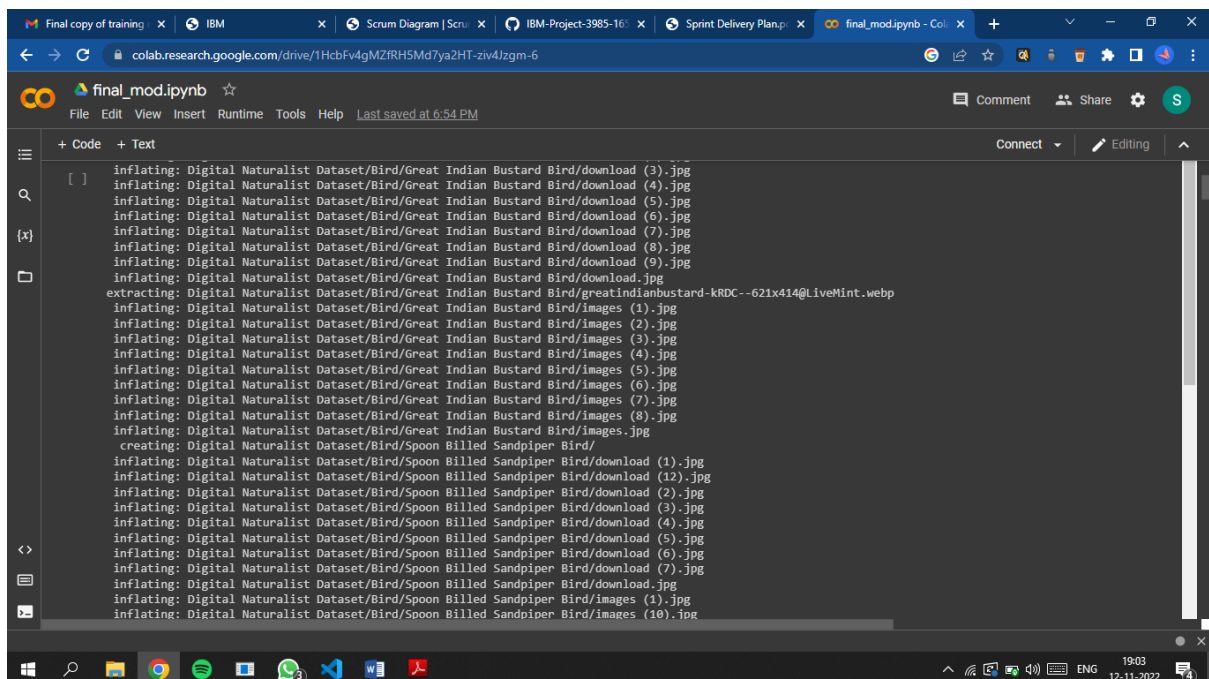
```
from google.colab import drive
drive.mount("/content/drive")

Mounted at /content/drive

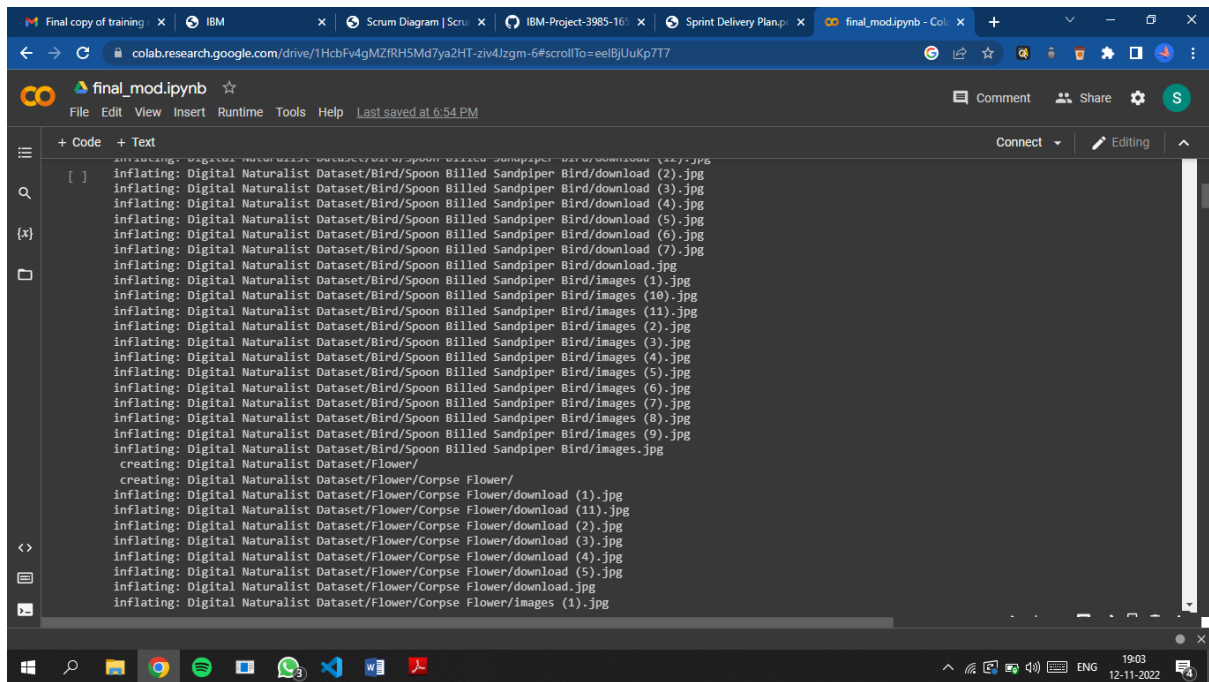
Unzipping the Dataset

[ ] !unzip "/content/drive/MyDrive/Colab Notebooks/Digital Naturalist Dataset.zip"

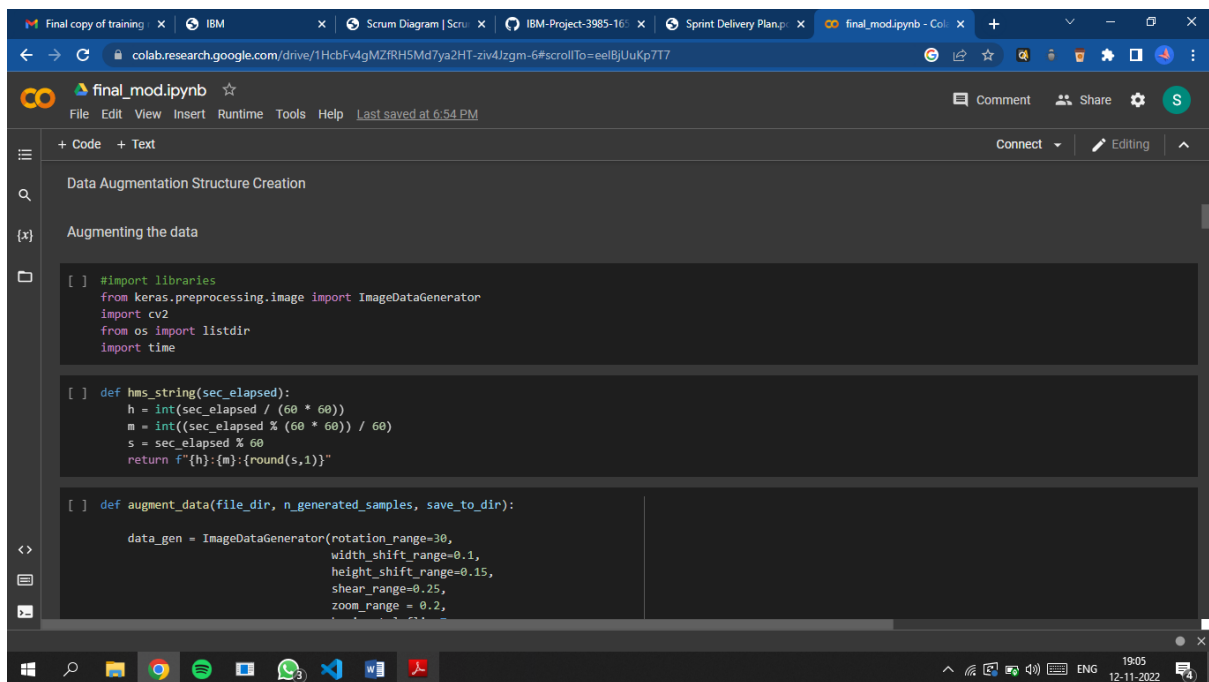
Archive: /content/drive/MyDrive/Colab Notebooks/Digital Naturalist Dataset.zip
creating: Digital Naturalist Dataset/
creating: Digital Naturalist Dataset/Bird/
creating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download (1).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download (10).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download (11).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download (2).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download (3).jpg
```



```
[ ] inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download (3).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download (4).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download (5).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download (6).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download (7).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download (8).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download (9).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/download.jpg
extracting: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/greatindianbustard-kRDC--621x414@LiveMint.webp
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/images (1).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/images (2).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/images (3).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/images (4).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/images (5).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/images (6).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/images (7).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/images (8).jpg
inflating: Digital Naturalist Dataset/Bird/Great Indian Bustard Bird/images.jpg
creating: Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird/
inflating: Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird/download (1).jpg
inflating: Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird/download (12).jpg
inflating: Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird/download (2).jpg
inflating: Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird/download (3).jpg
inflating: Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird/download (4).jpg
inflating: Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird/download (5).jpg
inflating: Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird/download (6).jpg
inflating: Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird/download (7).jpg
inflating: Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird/download.jpg
inflating: Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird/images (1).jpg
inflating: Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird/images (10).jpg
```



DIGITALIZING FOR ANALYZING:



```
[ ]  
    shear_range=0.25,  
    zoom_range = 0.2,  
    horizontal_flip=True,  
    vertical_flip=False,  
    fill_mode='nearest',  
    brightness_range=(0.5,1.2)  
    )  
    for filename in listdir(file_dir):  
        # load the image  
        image = cv2.imread(file_dir + '/' + filename)  
  
        # reshape the image  
        image = image.reshape((1,)+image.shape)  
  
        # prefix of the names for the generated sampels.  
        save_prefix = 'aug_' + filename[:4]  
        # generate 'n_generated_samples' sample images  
        i=0  
        for batch in data_gen.flow(x=image, batch_size=1, save_to_dir=save_to_dir, save_prefix=save_prefix, save_format='jpg'):  
            i += 1  
            if i > n_generated_samples:  
                break  
        ===  
    Arguments: file_dir: A string representing the directory where images that we want to augment are found.  
    n_generated_samples: A string representing the number of generated samples using the given image.  
    save_to_dir: A string representing the directory in which the generated images will be saved.""
```

```
[ ] file_dir=r"/content/drive/MyDrive/Colab Notebooks/Digital Naturalist/Digital Naturalist Dataset"  
  
Calling function for each subfolders & giving input params  
  
[ ] start_time = time.time()  
  
#3. Augmentation Structure Creation  
augmented_data_path = r"/content/drive/MyDrive/Colab Notebooks/Digital Naturalist/augmented data"  
  
#For Birds  
# augment data for the examples with label equal to GIB in Birds  
augment_data(file_dir=r"/content/drive/MyDrive/Colab Notebooks/Digital Naturalist/Digital Naturalist Dataset/Bird/Great Indian Bustard Bird', n_generated_sample:  
# augment data for the examples with label equal to GIB in Birds  
augment_data(file_dir=r"/content/drive/MyDrive/Colab Notebooks/Digital Naturalist/Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird', n_generated_samp  
  
#For MAMMALS  
# augment data for the examples with label equal to GIB in Flower  
augment_data(file_dir=r"/content/drive/MyDrive/Colab Notebooks/Digital Naturalist/Digital Naturalist Dataset/Flower/Corpse Flower', n_generated_samples=8, save_t  
# augment data for the examples with label equal to GIB in Flower  
augment_data(file_dir=r"/content/drive/MyDrive/Colab Notebooks/Digital Naturalist/Digital Naturalist Dataset/Flower/Lady Slipper Orchid Flower', n_generated_samp  
  
#For Flowers  
# augment data for the examples with label equal to GIB in Mammals
```

Final copy of training x IBM x Scrum Diagram | Scr x IBM-Project-3985-16 x Sprint Delivery Plan.p x final_mod.ipynb - Colab

colab.research.google.com/drive/1HcbFv4gMZRH5Md7ya2HT-ziv4Jzgm-6#scrollTo=SQdZyTdFsgGt

final_mod.ipynb

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Connect Editing

```
[ ] #For Birds
# augment data for the examples with label equal to GIB in Birds
augment_data(file_dir=r'/content/drive/MyDrive/Colab Notebooks/Digital Naturalist/Digital Naturalist Dataset/Bird/Great Indian Bustard Bird', n_generated_samples=8, save_to_disk=True)
# augment data for the examples with label equal to GIB in Birds
augment_data(file_dir=r'/content/drive/MyDrive/Colab Notebooks/Digital Naturalist/Digital Naturalist Dataset/Bird/Spoon Billed Sandpiper Bird', n_generated_samples=8, save_to_disk=True)

#For MAMMALS
# augment data for the examples with label equal to GIB in Flower
augment_data(file_dir=r'/content/drive/MyDrive/Colab Notebooks/Digital Naturalist/Digital Naturalist Dataset/Flower/Corpse Flower', n_generated_samples=8, save_to_disk=True)
# augment data for the examples with label equal to GIB in Flower
augment_data(file_dir=r'/content/drive/MyDrive/Colab Notebooks/Digital Naturalist/Digital Naturalist Dataset/Flower/Lady Slipper Orchid Flower', n_generated_samples=8, save_to_disk=True)

#For Flowers
# augment data for the examples with label equal to GIB in Mammals
augment_data(file_dir=r'/content/drive/MyDrive/Colab Notebooks/Digital Naturalist/Digital Naturalist Dataset/Mammal/Pangolin Mammal', n_generated_samples=8, save_to_disk=True)
# augment data for the examples with label equal to GIB in Mammals
augment_data(file_dir=r'/content/drive/MyDrive/Colab Notebooks/Digital Naturalist/Digital Naturalist Dataset/Mammal/Seneca White Deer Mammal', n_generated_samples=8, save_to_disk=True)

end_time = time.time()
execution_time = (end_time - start_time)
print(f'Elapsed time: {hms_string(execution_time)}')
```

Elapsed time: 0:0:34.6

[]

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