Universidad Intercontinental de la Empresa

Subject

Computer Vision

Activities in class

Unit I

Digital Image Fundamentals

Session 01

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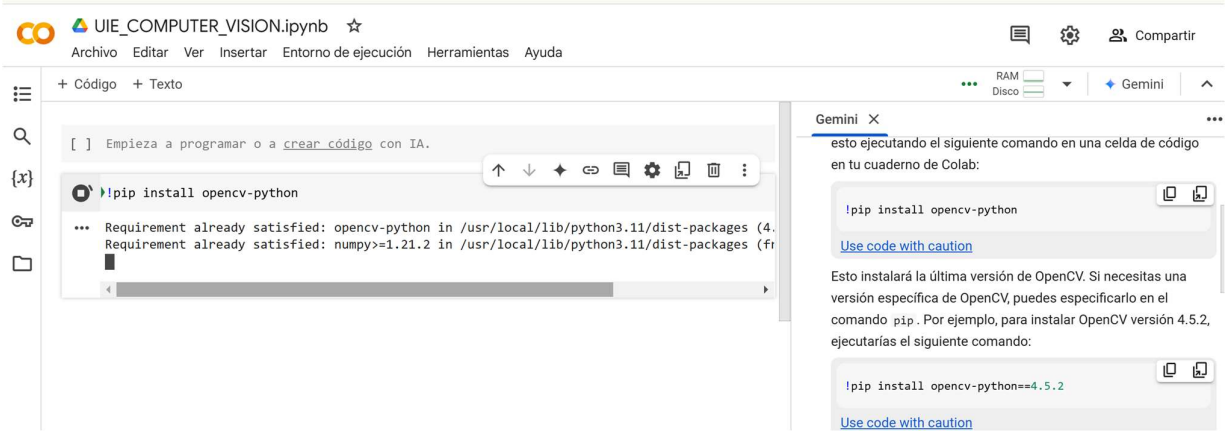
SETTING UP GOOGLE COLAB ENVIROMENT

Before we proceed, let's make sure we have the necessary libraries installed. Google Colab comes pre-installed with most of the common libraries, but we'll still check and install the required ones:

!pip install opencv-python

!pip install pillow

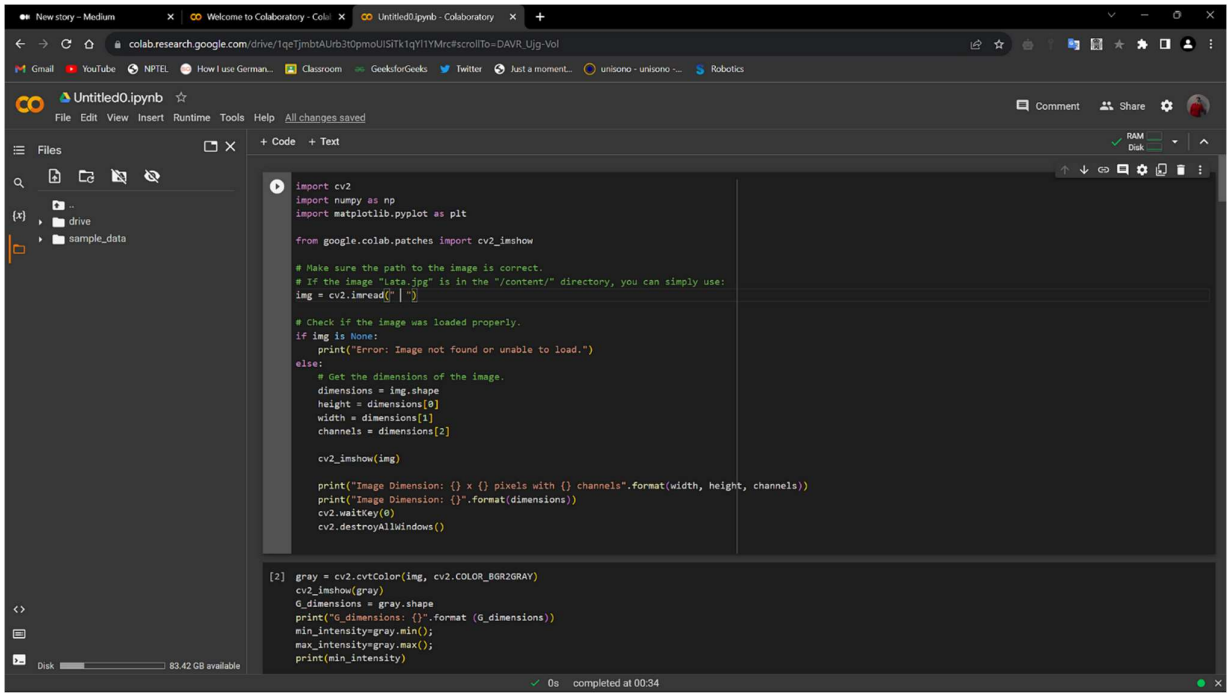
!pip install matplotlib



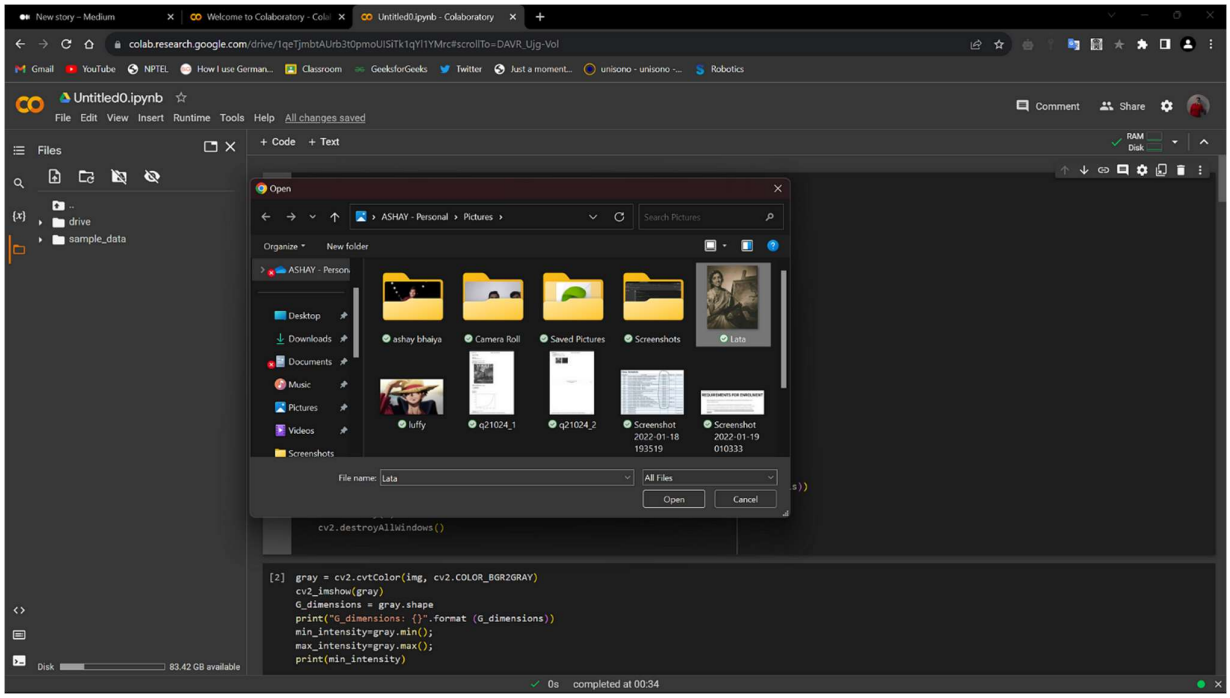
Uploading Images to Google Colab

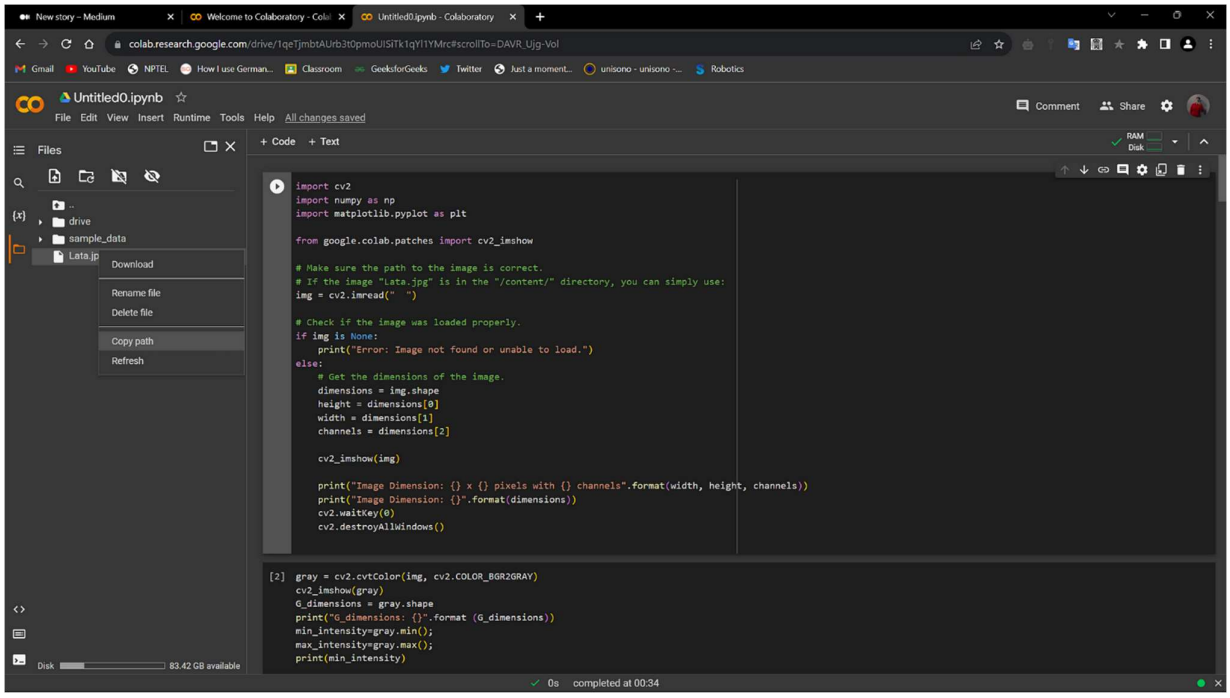
Before we begin loading and reading images, we need to upload the image files to our Google Colab environment. To upload images, follow these steps:

1. Click the "Files" icon on the left sidebar.



2. Click the “Upload” button and select the image files you want to use.





Copy the Path for further references

Loading Images with OpenCV

Now that we have our images uploaded:

a. For Simplying Loading the Image, the Basic command using OpenCV is:

```
import cv2
from google.colab.patches import cv2_imshow
# Open the image.
img = cv2.imread("/content/Lata.jpg")
cv2_imshow(img)
```

b. Loading and reading them using OpenCV:

```python
import cv2
import numpy as np
import matplotlib.pyplot as plt

from google.colab.patches import cv2_imshow

# Make sure the path to the image is correct.
# If the image "Lata.jpg" is in the "/content/" directory, you can simply use:
img = cv2.imread("/content/Lata.jpg")

# Check if the image was loaded properly.
if img is None:
    print("Error: Image not found or unable to load.")
else:
    # Get the dimensions of the image.
    dimensions = img.shape
    height = dimensions[0]
    width = dimensions[1]
    channels = dimensions[2]

    cv2_imshow(img)

    print("Image Dimension: {} x {} pixels with {} channels".format(width, hei
    print("Image Dimension: {}".format(dimensions))
    cv2.waitKey(0)
    cv2.destroyAllWindows()
```

Resources:

https://medium.com/@ingaleashay/loading-and-displaying-images-in-google-colab-a-guide-with-opencv-pil-and-matplotlib-d13bf5b8fe6b