!pip install opencv-python matplotlib

import cv2

import numpy as np

import matplotlib.pyplot as plt

from google.colab import files

uploaded = files.upload()

image\_path = next(iter(uploaded))

image = cv2.imread(image\_path, cv2.IMREAD\_GRAYSCALE)

laplacian\_mask = np.array([[0, 1, 0],

[1, -4, 1],

[0, 1, 0]])

laplacian\_result = cv2.filter2D(image, ddepth=-1, kernel=laplacian\_mask)

sharpened\_image = cv2.subtract(image, laplacian\_result)

plt.figure(figsize=(15,5))

plt.subplot(1, 3, 1)

plt.title('Original Image')

plt.imshow(image, cmap='gray')

plt.subplot(1, 3, 2)

plt.title('Laplacian Mask Result')

plt.imshow(laplacian\_result, cmap='gray')

plt.subplot(1, 3, 3)

plt.title('Sharpened Image')

plt.imshow(sharpened\_image, cmap='gray')

plt.show()

