

```

import cv2
import numpy as np
import matplotlib.pyplot as plt
from google.colab import files
from PIL import Image
from io import BytesIO

print("Please upload an image file (e.g., PNG or JPG)...")
uploaded = files.upload()

for file_name in uploaded.keys():
    img = Image.open(BytesIO(uploaded[file_name])).convert("L")
    image = np.array(img)

laplacian_kernel = np.array([[0, -1, 0],
                             [-1, 5, -1],
                             [0, -1, 0]])

sharpened_image = cv2.filter2D(image, -1, laplacian_kernel)

plt.figure(figsize=(10, 5))

plt.subplot(1, 2, 1)
plt.imshow(image, cmap='gray')
plt.title("Original Image")
plt.axis("off")

plt.subplot(1, 2, 2)
plt.imshow(sharpened_image, cmap='gray')
plt.title("Sharpened Image (Laplacian)")
plt.axis("off")

plt.tight_layout()
plt.show()

```



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Original Image



Sharpened Image (Laplacian)

