DSA0210 Computer Vision with Open CV LAB Experiments

Experiment- 20: Perform Sharpening of Image using High-Boost Masks.

PROGRAM:

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

# Read the input image
img = cv2.imread(r"D:\New Folder\input.jpeg")

# Check if image is loaded
if img is None:
    raise FileNotFoundError("Image not found. Check the file path.")

# Convert image to grayscale
gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)

# Apply Gaussian blur
blurred = cv2.GaussianBlur(gray, (5, 5), 0)

# High-boost factor (A > 1)
A = 1.8

# High-boost filtering
high_boost = A * gray - blurred

# Clip pixel values to valid range
high_boost = np.clip(high_boost, 0, 255).astype(np.uint8)
```

```
# Display images
plt.figure(figsize=(8, 4))

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

plt.subplot(1, 2, 2)
plt.imshow(high_boost, cmap="gray")
plt.title("Sharpened Image (High-Boost Masking)")
plt.axis("off")

plt.tight_layout()
plt.show()
```

OUTPUT: