

```
In [1]: import cv2
import sys
import matplotlib.pyplot as plt
```

```
In [2]: def convert_image_to_pencil_sketch(image_path, output_path):
    image = cv2.imread(image_path)

    if image is None:
        print("Error: Image not found.")
        sys.exit()

    gray_image = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)

    inverted_gray_image = 255 - gray_image

    blurred_image = cv2.GaussianBlur(inverted_gray_image, (21, 21), 0)

    inverted_blurred_image = 255 - blurred_image

    pencil_sketch = cv2.divide(gray_image, inverted_blurred_image, scale=256.0)

    cv2.imwrite(output_path, pencil_sketch)

    image_rgb = cv2.cvtColor(image, cv2.COLOR_BGR2RGB)
    pencil_sketch_rgb = cv2.cvtColor(pencil_sketch, cv2.COLOR_GRAY2RGB)

    fig, (ax1, ax2) = plt.subplots(1, 2, figsize=(20, 10), gridspec_kw={'wspace': -0.26})
    ax1.imshow(image_rgb)
    ax1.set_title('Original Image')
    ax1.axis('off')
    ax2.imshow(pencil_sketch_rgb)
    ax2.set_title('Pencil Sketch')
    ax2.axis('off')
    plt.show()

if __name__ == "__main__":
    image_path = "E:/lion.jpg"
    output_path = "E:/pencil_sketch.jpg"
    convert_image_to_pencil_sketch(image_path, output_path)
```

Original Image



Pencil Sketch



In []: