

20) Implement the Opening technique as a Morphological operation to dilate the foreground regions based on Open CV.

Code:

```
import cv2

import numpy as np

# Load the image in grayscale
image = cv2.imread(r"C:\Users\harik\Downloads\CV LAB\greysacle.png", cv2.IMREAD_GRAYSCALE)

# Convert to binary image (if not already binary)
_, binary = cv2.threshold(image, 127, 255, cv2.THRESH_BINARY)

# Define structuring element (kernel)
kernel = np.ones((5, 5), np.uint8)

# Apply Opening (erosion followed by dilation)
opened_image = cv2.morphologyEx(binary, cv2.MORPH_OPEN, kernel)

# Display the results
cv2.imshow("Original Binary", binary)
cv2.imshow("After Opening", opened_image)
cv2.waitKey(0)
cv2.destroyAllWindows()

# Optional: Save the result
cv2.imwrite(r"C:\Users\harik\Downloads\CV LAB\opened_output.png", opened_image)
```

OUTPUT:

