19)Implement the Erosion Morphological operations technique using Open CV in python.

CODE:

```
import cv2
import numpy as np

# Step 1: Load the image
image_path = r"C:\Users\harik\Downloads\CV LAB\MOUNTAIN.jpeg"  # Replace with your image path
image = cv2.imread(image_path)

if image is None:
    print("Error: Could not load the source image.")
    exit()

# Step 2: Convert the image to grayscale (if it's a color image)
gray_image = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)

# Step 3: Apply a binary threshold to get a binary image (black and white)
_, thresh_image = cv2.threshold(gray_image, 127, 255, cv2.THRESH_BINARY)

# Step 4: Create the kernel (a square matrix of ones)
kernel = np.ones((5, 5), np.uint8)  # You can adjust the size of the kernel

# Step 5: Apply the erosion operation
eroded_image = cv2.erode(thresh_image, kernel, iterations=1)

# Step 6: Display the results
cv2.imshow("Original Image", image)
cv2.imshow("Threshold Image", thresh_image)
```

cv2.imshow("Eroded Image", eroded_image)

Step 7: Save the eroded image to a file

output_path = r"C:\Users\harik\Downloads\CV LAB\eroded_image.jpg" # Replace with your desired path

cv2.imwrite(output_path, eroded_image)

Wait until a key is pressed to close the image window

cv2.waitKey(0)

cv2.destroyAllWindows()

OUTPUT: