

### 30. Morphological operations based on OpenCV using Top hat technique.

#### PROGRAM:

```
EXP-30.py - C:/Users/reddy/OneDrive/Desktop/COMPUTER VISION/EXP-30.py (3.11.9)
File Edit Format Run Options Window Help
import cv2
import numpy as np

# Step 1: Read image
img = cv2.imread(r"C:\Users\reddy\OneDrive\Desktop\COMPUTER VISION\111.jpg")
if img is None:
    print("Image not found")
    exit()

# Step 2: Convert to grayscale
gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)

# Step 3: Create kernel
kernel = np.ones((5,5), np.uint8)

# Step 4: Apply Top Hat operation
tophat = cv2.morphologyEx(gray, cv2.MORPH_TOPHAT, kernel)

# Step 5: Display images
cv2.imshow("Original Image", gray)
cv2.imshow("Top Hat Result", tophat)

cv2.waitKey(0)
cv2.destroyAllWindows()
```

#### OUTPUT:

