8 question

```
import cv2
import numpy as np

# Step 1: Read the Image
image_path = r"C:\Users\SAIL\Downloads\CV\music.jpg"  # Replace with your file path
image = cv2.imread(image_path)

# Check if the image is loaded successfully
if image is None:
    print("Error: Could not load image.")
    exit()

# Step 2: Convert the Image to Grayscale (for better morphological operations)
gray_image = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)

# Step 3: Apply Thresholding to create a binary image (0 and 255 values)
_, binary_image = cv2.threshold(gray_image, 127, 255, cv2.THRESH_BINARY)

# Step 4: Define the Structuring Element (kernel) for Dilation
# A 5x5 square kernel for dilation
kernel = np.ones((5, 5), np.uint8)

# Step 5: Apply Dilation
dilated_image = cv2.dilate(binary_image, kernel, iterations=1)
```

Step 6: Display the Original and Dilated Images

cv2.imshow("Original Image", image)

cv2.imshow("Binary Image", binary_image)

cv2.imshow("Dilated Image", dilated_image)

Wait for a key press and close all windows

cv2.waitKey(0)

cv2.destroyAllWindows()