Implementation of Erosion and Dilation

Aim

To implement Erosion and Dilation using Python and OpenCV.

Software Required

1. Anaconda - Python 3.7
2. OpenCV

Algorithm:

Step1:

Import the necessary packages.

Step2:

Create the Text using cv2.putText.

Step3:

Create the structuring element.

Step4:

Erode and Dilate the image.

Step5:

End Program.

Program:

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Import the necessary packages

```
import cv2
import numpy as np
from matplotlib import pyplot as plt
```

Create the text using cv2.putText

```
img1 = np.zeros((100,550), dtype = 'uint8')
font = cv2.FONT_HERSHEY_SIMPLEX
cv2.putText(img1,'Shafeeq Ahamed',(5,70), font, 2,(255),5,cv2.LINE_AA)
plt.imshow(img1,'gray')
```

Create the structuring element

```
kernel = cv2.getStructuringElement(cv2.MORPH_CROSS,(7,7))
cv2.erode(img1, kernel)
```

Erode the image

```
image_erode1 = cv2.erode(img1,kernel)
plt.imshow(image_erode1, 'gray')
```

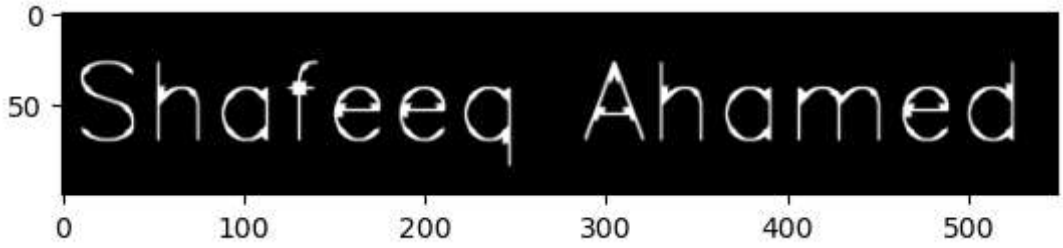
Dilate the image

```
image_dilate1 = cv2.dilate(img1, kernel)
plt.imshow(image_dilate1, 'gray')
```

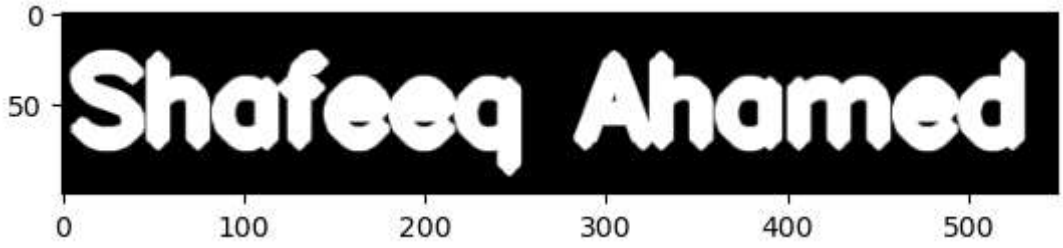
Output:

Display the input Image

Display the Eroded Image



Display the Dilated Image



Result

Thus the generated text image is eroded and dilated using python and OpenCV.