1. **Read an image, first apply erosion to the image and then subtract the result from the original. Demonstrate the difference in the edge image if you use dilation instead of erosion.**

import cv2

import numpy as np

img = cv2.imread('DIP/image.jpg')

gray = cv2.cvtColor(img, cv2.COLOR\_BGR2GRAY)

kernel = np.ones((5,5),np.uint8)

erosion = cv2.erode(gray, kernel, iterations=1)

dilation = cv2.dilate(gray, kernel, iterations=1)

edges\_erosion = gray - erosion

edges\_dilation = dilation - gray

cv2.imshow('Original', img)

cv2.imshow('Eroded', erosion) cv2.imshow('Dilated', dilation)

cv2.imshow('Edges (Erosion)', edges\_erosion) cv2.imshow('Edges (Dilation)', edges\_dilation)

cv2.waitKey(0)

cv2.destroyAllWindows()