1. **Perform edge detection using Sobel Matrix along xy-axis**

**Aim:**

To perform edge detection using Sobel Matrix along xy-axis using python.

**Code:**

import cv2

import numpy as np

img = cv2.imread(r"C:\Users\prith\Documents\CV\cvimage.jpg")

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

kernel = np.array([[0,1,0], [1,-8,1], [0,1,0]])

sharpened = cv2.filter2D(gray, -1, kernel)

cv2.imshow('Original', gray)

cv2.imshow('Sharpened', sharpened)

cv2.waitKey(0)

cv2.destroyAllWindows()

**Input:**



**Output:**

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**Result:**

The python code to perform edge detection using Sobel Matrix along xy-axis on an image has been executed successfully.