```python
from PIL import Image
import numpy as np
import matplotlib.pyplot as plt

im1 = Image.open("Lenna.jpg").resize((255,255)).convert("L")
arr1 = np.array(im1.copy())
arr2 = np.zeros(arr1.shape, dtype= np.uint8)
arr3 = np.zeros(arr1.shape, dtype= np.uint8)
arr4 = np.zeros(arr1.shape, dtype= np.uint8)

kernel1 = np.array([[1,0,-1],[2,0,-2],[1,0,-1]], np.single) #sobel vertical mask
kernel2 = np.array([[1,2,1],[0,0,0],[-1,-2,-1]], np.single) #sobel horizontal mask
hs = np.floor(kernel1.shape[0]/2).astype(np.uint32)

for y in range(arr1.shape[0]):
    for x in range(arr1.shape[1]):
        tmpK1 = 0;
        tmpK2 = 0;
        for ky in range(kernel1.shape[0]):
            for kx in range(kernel2.shape[0]):
                py = min(max(y+ky-hs,0),arr1.shape[0]-1)
                px = min(max(x+kx-hs,0),arr1.shape[1]-1)
                tmpK1 = tmpK1 + arr1[py,px]*kernel1[ky,kx]
                tmpK2 = tmpK2 + arr1[py,px]*kernel2[ky,kx]

        tmpK1 = 255-tmpK1
        tmpK2 = 255-tmpK2
        arr2[y,x] = np.floor(min(max(tmpK1,0),255)).astype(np.uint8)
        arr3[y,x] = np.floor(min(max(tmpK2,0),255)).astype(np.uint8)
        arr4[y,x] = np.floor(min(max((tmpK1+tmpK2)/2,0),255)).astype(np.uint8)


Image.fromarray(np.hstack((arr1,arr2,arr3,arr4)) ).show()
```