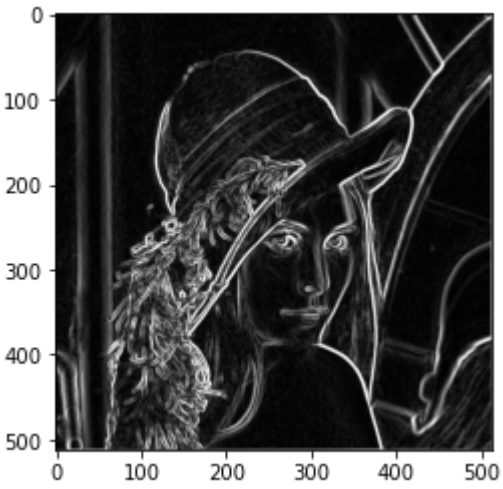
In [1]:
```
import cv2
import numpy as np
import matplotlib.pyplot as plt
```

In [13]:
```
def sobelOperator(img):
    img_copy = np.copy(img)
    size = img_copy.shape
    for i in range(1, size[0] - 1):
        for j in range(1, size[1] - 1):
            gx = (img[i - 1][j - 1] + 2*img[i][j - 1] + img[i + 1][j - 1]) - (img
            gy = (img[i - 1][j - 1] + 2*img[i - 1][j] + img[i - 1][j + 1]) - (img
            img_copy[i][j] = min(255, np.sqrt(gx**2 + gy**2))
    return img_copy
    pass
```

In [11]:
```
img = cv2.cvtColor(cv2.imread('C:\\Users\\sayak\\anaconda3\\lena_gray_512.tif'),
img = cv2.GaussianBlur(img,(3,3), 0)
img = sobelOperator(img)
img = cv2.cvtColor(img, cv2.COLOR_GRAY2RGB)
```

In [12]:
```
plt.imshow(img)
plt.show()
```



In [ ]: