EXP. No: 6

Date   :

IMAGE EDGE DETECTION USING SOBEL AND CANNEY FILTERING

Objective:

To perform the image edge detection using sobel and canney filtering using SCILAB.

Code:

```
close ;
clear ;
clc ;
img = imread('shapes.jpg');
// Reads input image shapes.jpg
img = rgb2gray(img);
// Converts input image to gray scale
clf
// Clears figure handle
subplot(2,2,1);
imshow(img);
title('Gray scale image');
e=edge(img);//This performs edge detection operation with sobel, threshold =0.5
subplot(2,2,2);
imshow(e)
title('sobel filter');


e = edge(img, 'prewitt'); // threshold=0.5
// Applied prewitt edge detection method
subplot(2,2,3);;
imshow(e)
title('Prewitt image');
e = edge(img,'canny', [0.06 0.2]);
// Applies canny edge detection method
```
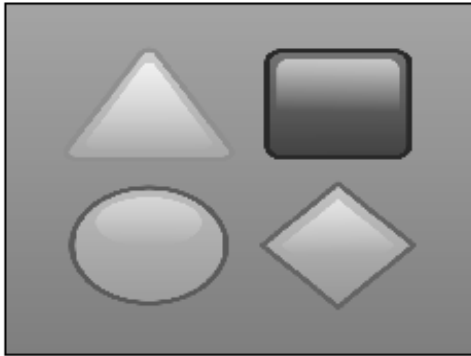
```
subplot(2,2,4);
imshow(e)
title('canney filter');
e = edge(img, 'fftderiv', 0.4) ;
// Applies FFT gradient method ; 0.4 threshold
figure;
imshow(e)
title('FFT image');
```
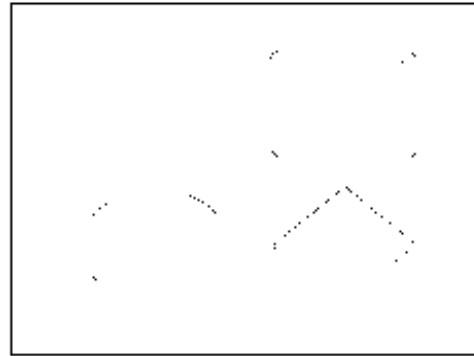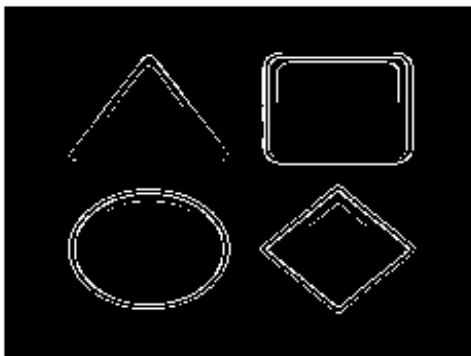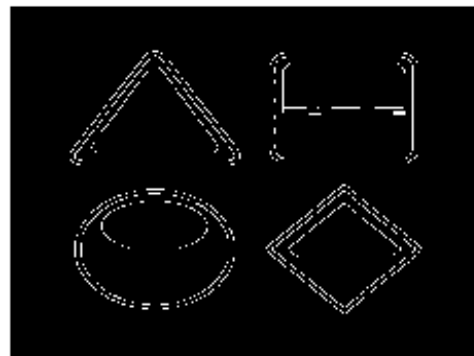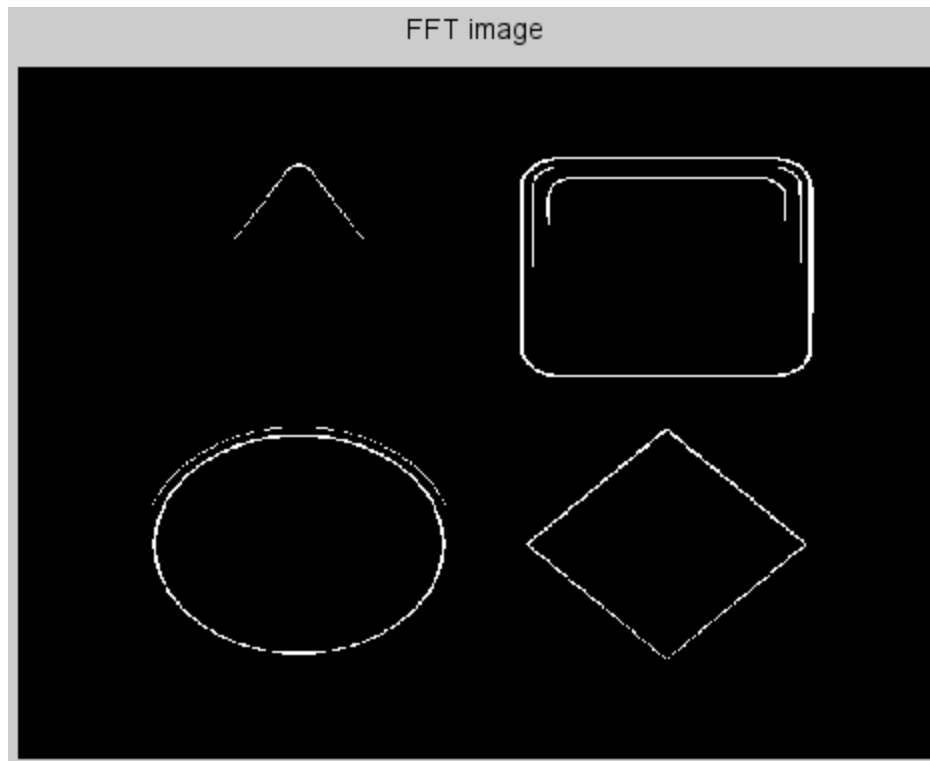
Output:

Gray scale image

sobel filter

Prewitt image

canney filter

FFT image

Result:

      Thus, the image edge detection using Sobel and Canney filtering is verified successfully using SCILAB.