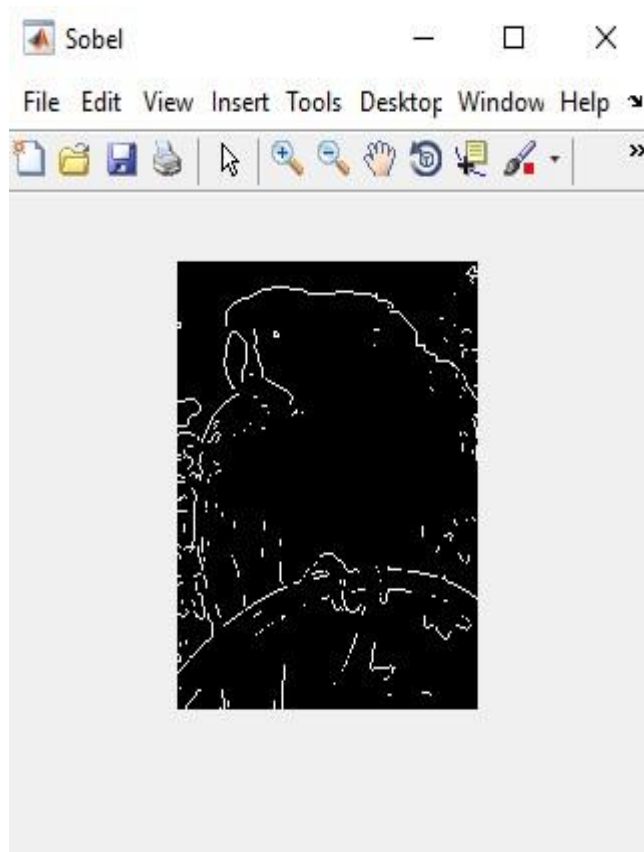


Name: أحمد رضا سليمان

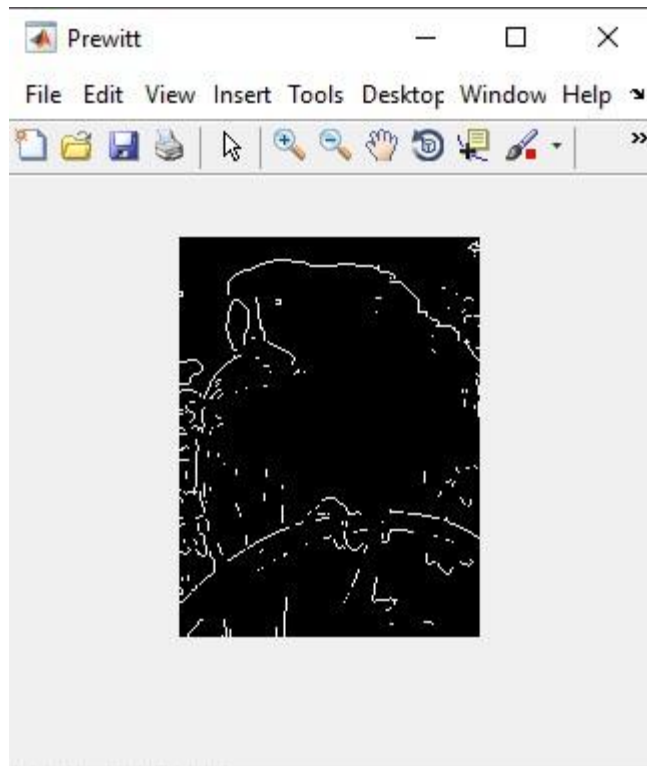
Sec: 1

```
1 originalImg = imread('download.png');
2 figure('Name','Original Image','NumberTitle','off');
3 imshow(originalImg);
4
5 %-----first Derivative -----%
6
7 %first derivative edge detection with prewitt method
8 first_prewitt = edge(originalImg, 'Prewitt');
9 figure('Name','Prewitt','NumberTitle','off');
10 imshow(first_prewitt);
11 %first derivative edge detection with sobel method
12 first_sobel = edge(originalImg, 'Sobel');
13 figure('Name','Sobel','NumberTitle','off');
14 imshow(first_sobel);
15 %first derivative edge detection with sobel method
16 first_roberts = edge(originalImg, 'Roberts');
17 figure('Name','Roberts','NumberTitle','off');
18 imshow(first_roberts);
19
20 %-----Socend Derivative-----%
21
22 second_log = edge(originalImg, 'log');
23 figure('Name','LOG','NumberTitle','off');
24 imshow(second_log);
25
26 second_zerocross = edge(originalImg, 'zerocross');
27 figure('Name','zerocross','NumberTitle','off');
28 imshow(second_zerocross);
29
30 %-----Canny-----%
31
32 canny = edge(originalImg, 'canny');
33 figure('Name','Canny','NumberTitle','off');
34 imshow(canny);
35
```

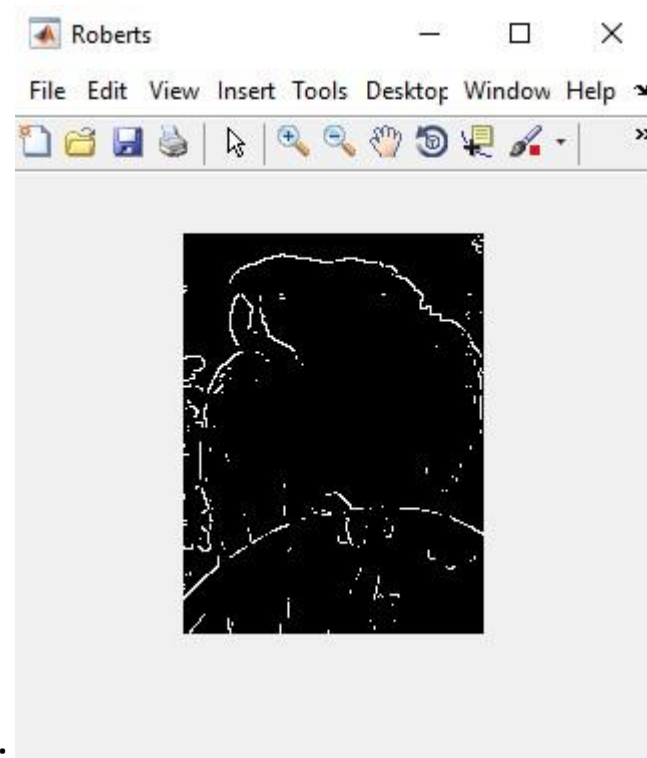
First derivative Edge Detection



Sobel:

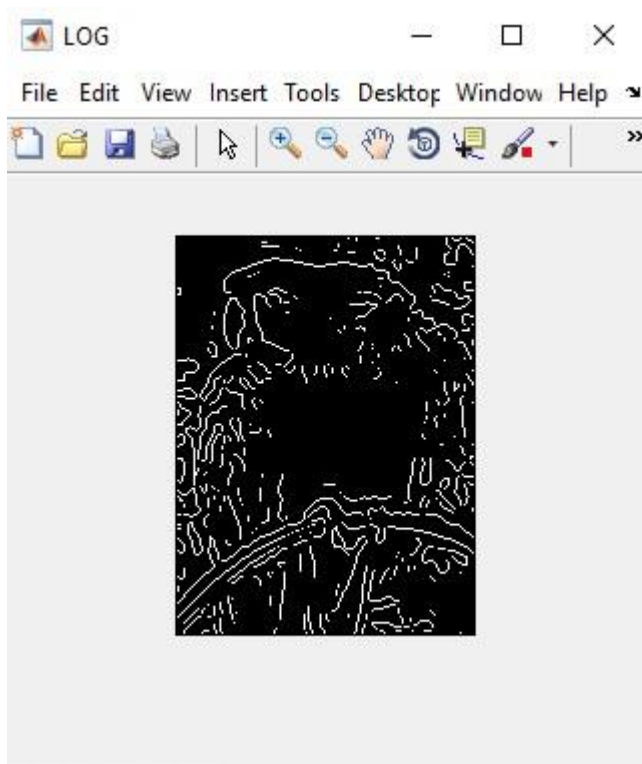


Prewitt:

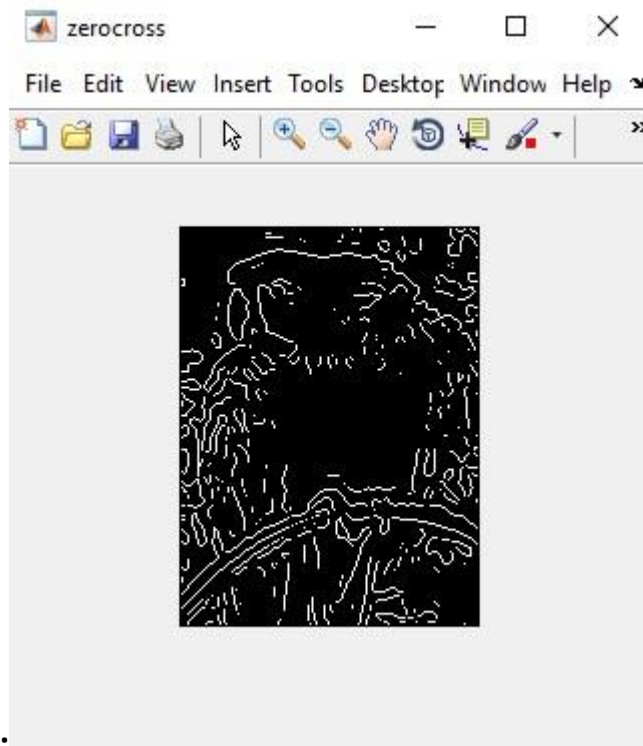


Roberts:

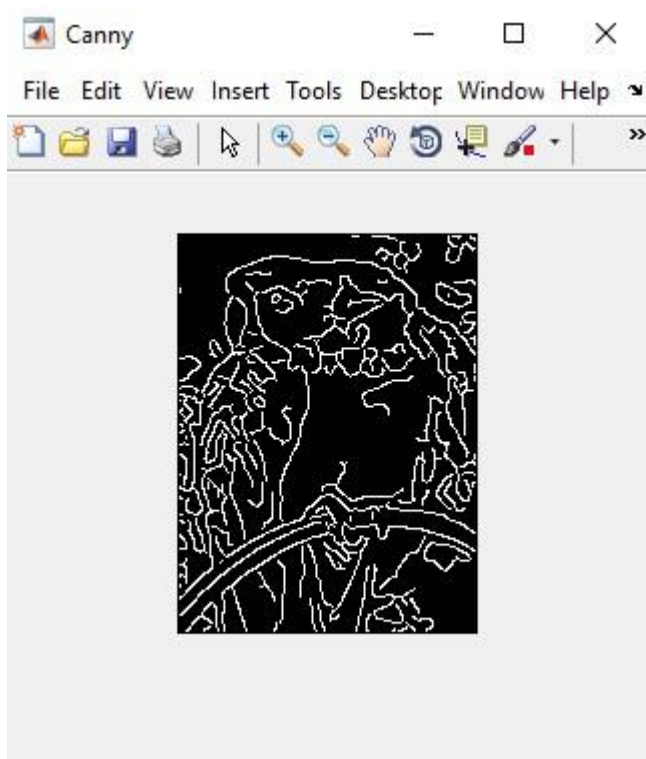
Second Derivative Edge Detection



Log:



Zerocross:



Canny:

First derivative with sobel or prewitt is way clearer to recognize with less noise and sharp edges.

But second derivative is not very clear and has a lot of noise.

And for Canny Algorithm. It has a lot of edges but still can be recognized with sharper edges.

So CANNY is someway better.