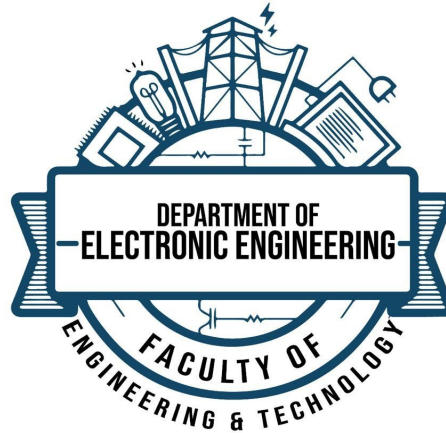


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# Basic Image Processing Using MATLAB

## Introduction:

We are utilizing essential image preparing using MATLAB computer program. MATLAB could be in very depth implementation dialect for specialized running with effective commands and sentence structure. It's designed for numerous purposes like math, information investigation, calculation advancement, demonstrating incitement and prototyping. Edge location, commotion and picture histogram displaying are a few vital and fundamental subjects in picture handling.

## Edge Detection:

Image is nothing but planning of escalated of the brightlight mirroring from a scene caught by camera. And boundaries are the gap of the part concentrated work. We are able distinguish these boundaries utilizing MATLAB. There are numerous strategies for boundaries location like Robert, Prewitt, Sobel, Canny edge operator etc.

## Coding:

```
myimage=imread('aq.tif');
subplot(2,3,1);
imshow(myimage);
title('Original Image');

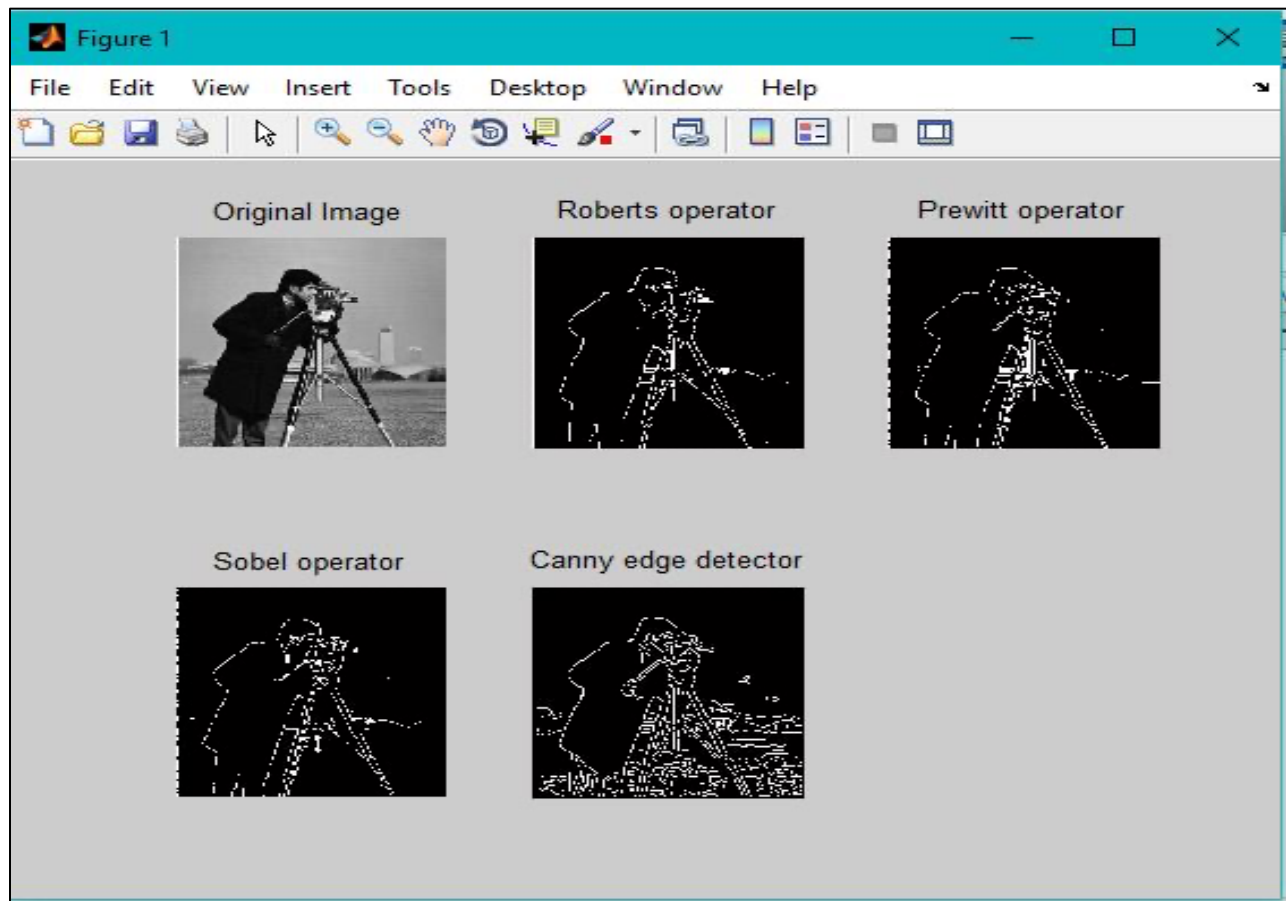
r=edge(myimage,'roberts');
subplot(2,3,2);
imshow(r);
title('Roberts operator');

p=edge(myimage,'prewitt');
subplot(2,3,3);
imshow(p);
title('Prewitt operator');
```

```
s=edge(myimage,'sobel');
subplot(2,3,4);
imshow(s);
title('Sobel operator');

c=edge(myimage,'canny');
subplot(2,3,5);
imshow(c);
title('Canny edge detector');
```

### Output:



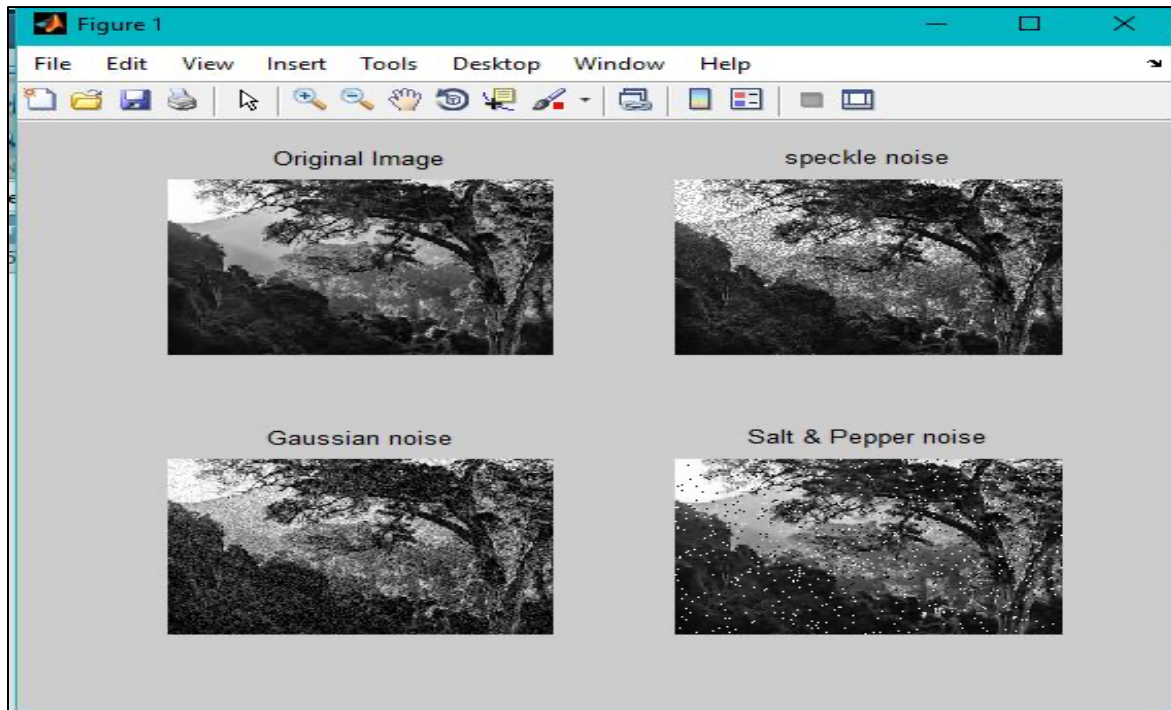
### Noise:

Noise in any framework is undesirable. In image handling, noise in a advanced picture emerges during picture procurement conjointly during transmission. Distinctive sorts of noise incorporate gaussian, salt, pepper and many more. The main part is, able to utilize these sorts of commotion as uncommon impacts in an image.

## Coding:

```
originalimag=imread('abcd.jpg');  
myimage=rgb2gray(originalimag);  
subplot(2,2,1);  
imshow(myimage);  
title('Original Image');  
  
s=imnoise(myimage,'speckle');  
subplot(2,2,2);  
imshow(s);  
title('speckle noise');  
  
g=imnoise(myimage,'gaussian');  
subplot(2,2,3);  
imshow(g);  
title('Gaussian noise');  
  
sp=imnoise(myimage,'salt & pepper');  
subplot(2,2,4);  
imshow(sp);  
title('Salt & Pepper noise');
```

## Output:



## Histogram Modeling:

A histogram of an image gives endless depiction almost an picture. It speaks to the event of different light back levels in relation to frequency We plot the histograms of the original image and the histogram-equalized image in this software.

## Coding:

```
originalimag=imread('abcde.jpg');  
myimage=rgb2gray(originalimag);  
subplot(2,2,1);  
imshow(myimage);  
title('Original Image');  
  
subplot(2,2,2);  
imhist(myimage,256);  
title('Histogram of original image')  
  
j=histeq(myimage);  
subplot(2,2,3);  
imshow(j);  
title('Histogram equalized image');  
  
subplot(2,2,4);  
imhist(j,256);  
title('Histogram of histogram equalized image')
```

## Output:

