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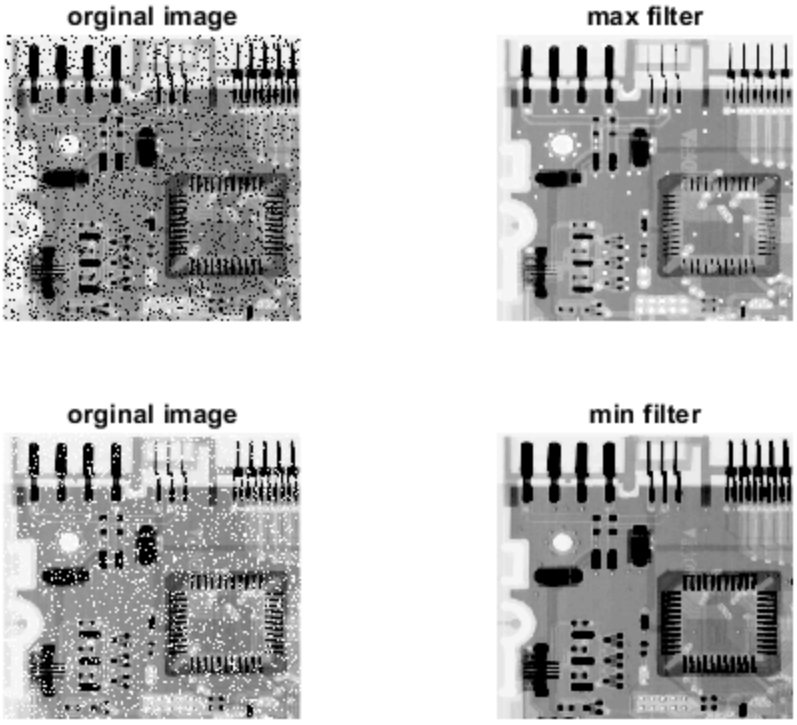
Question 1 - 2

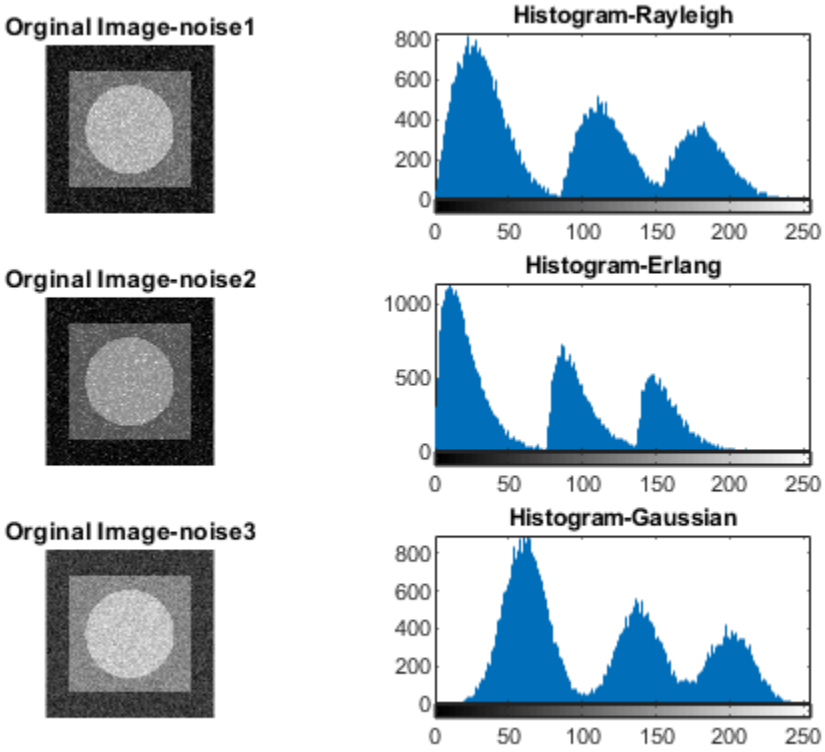
```
x = (imread('circuit-board-pepper.tif')); %read image for double
x=double(x);%convert orginal image double for calculations
figure
subplot(2,2,1)
imshow(uint8(x)) %orginal image
title('orginal image')
max = ordfilt2(x,9,ones(3,3)); %for pepper noise prefered max filter
subplot(2,2,2)
imshow(uint8(max))
title('max filter')

x = (imread('circuit-board-salt.tif')); %read image for double
x=double(x);%convert orginal image double for calculations
subplot(2,2,3)
imshow(uint8(x)) %orginal image
title('orginal image')
min = ordfilt2(x,1,ones(3,3)); %for salt noise prefered min filter
subplot(2,2,4)
imshow(uint8(min))
title('min filter')
```



Question 3

```
n1 = (imread('pattern_noise1.tif')); %Gaussian
n2 = (imread('pattern_noise2.tif')); %Rayleigh
n3 =(imread('pattern_noise3.tif')); %Erlang

figure
subplot(3,2,1)
imshow(uint8(n1))
title('Orginal Image-noise1')
subplot(3,2,2)
imhist(n1)
title('Histogram-Rayleigh')

subplot(3,2,3)
imshow(uint8(n2))
title('Orginal Image-noise2')
subplot(3,2,4)
imhist(n2)
axis tight
title('Histogram-Erlang')

subplot(3,2,5)
imshow(uint8(n3))
title('Orginal Image-noise3')
```

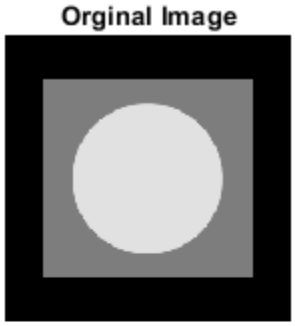
```
subplot(3,2,6)
imhist(n3)
axis tight
title('Histogram-Gaussian')
```

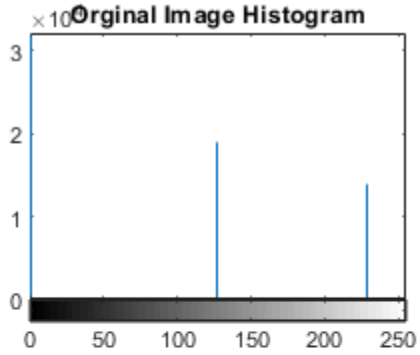


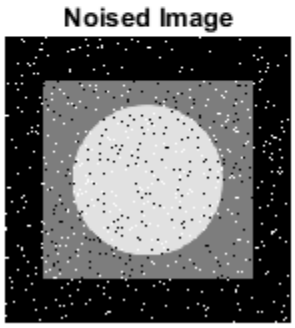
Question 4

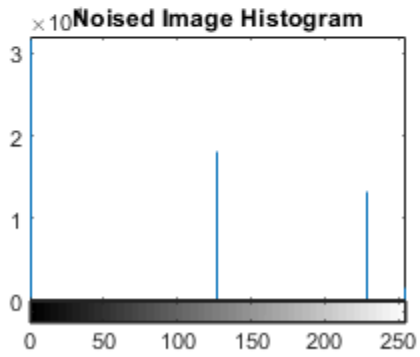
```
figure
q4 = (imread('pattern.tif'));
q4noised= imnoise(q4,'salt & pepper'); %salt and pepper noise

subplot(2,2,1)
imshow(uint8(q4))
title('Orginal Image')

subplot(2,2,2)
imhist(q4)
axis tight
title('Orginal Image Histogram')

subplot(2,2,3)
imshow(q4noised)
title('Noised Image')

subplot(2,2,4)
imhist(q4noised)
```

```
axis tight
title('Noised Image Histogram')


%In histogram we can see easly because pixel count is so big for this
 zoom
%the histogram at 255 point.Orginal photo doesnt have white pixel
 however
%noised image has some white pixel
%Salt and pepper shape is impulse
```





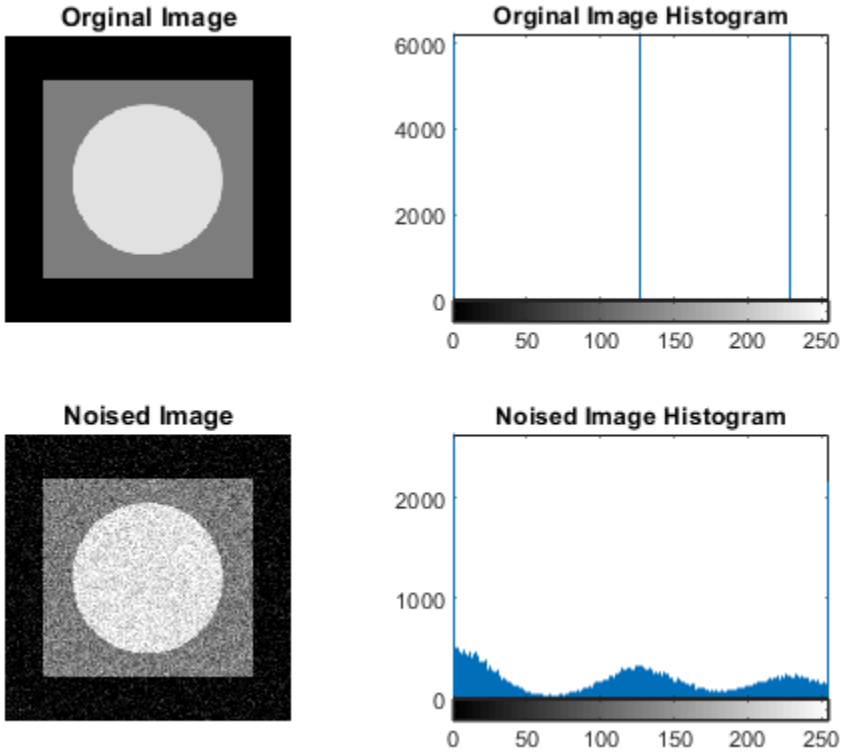




Question 5

```
figure
q5 = (imread('pattern.tif')); %Gaussian
q5noised=  imnoise(q5,'gaussian',0,0.01); %Gaussian add noise

subplot(2,2,1)
imshow(uint8(q5))
title('Orginal Image')

subplot(2,2,2)
imhist(q5)%Histogram orginal image
title('Orginal Image Histogram')

subplot(2,2,3)
```

```
imshow(q5noised)
title('Noised Image')

subplot(2,2,4)
imhist(q5noised)%Histogram noised image
title('Noised Image Histogram')

%Normally orginal image has 3 different color and in histogram show
 this
%fact.After add the noise color distributed and histogram looks like a
 wave
%because in orginal image has 3 different after the gaussian
 distribution
%all color value has some value.We know the gaussian shape and
%Fourth question we add salt and pepper noise and this question add
%gaussian noise and in same image 2 different histogram.Also gaussian
%historam is continios because the gaussian distirbution.
```



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