

ANALOG & DIGITAL COMMUNICATION (ET3172)

Assignment – 04 (MATLAB)

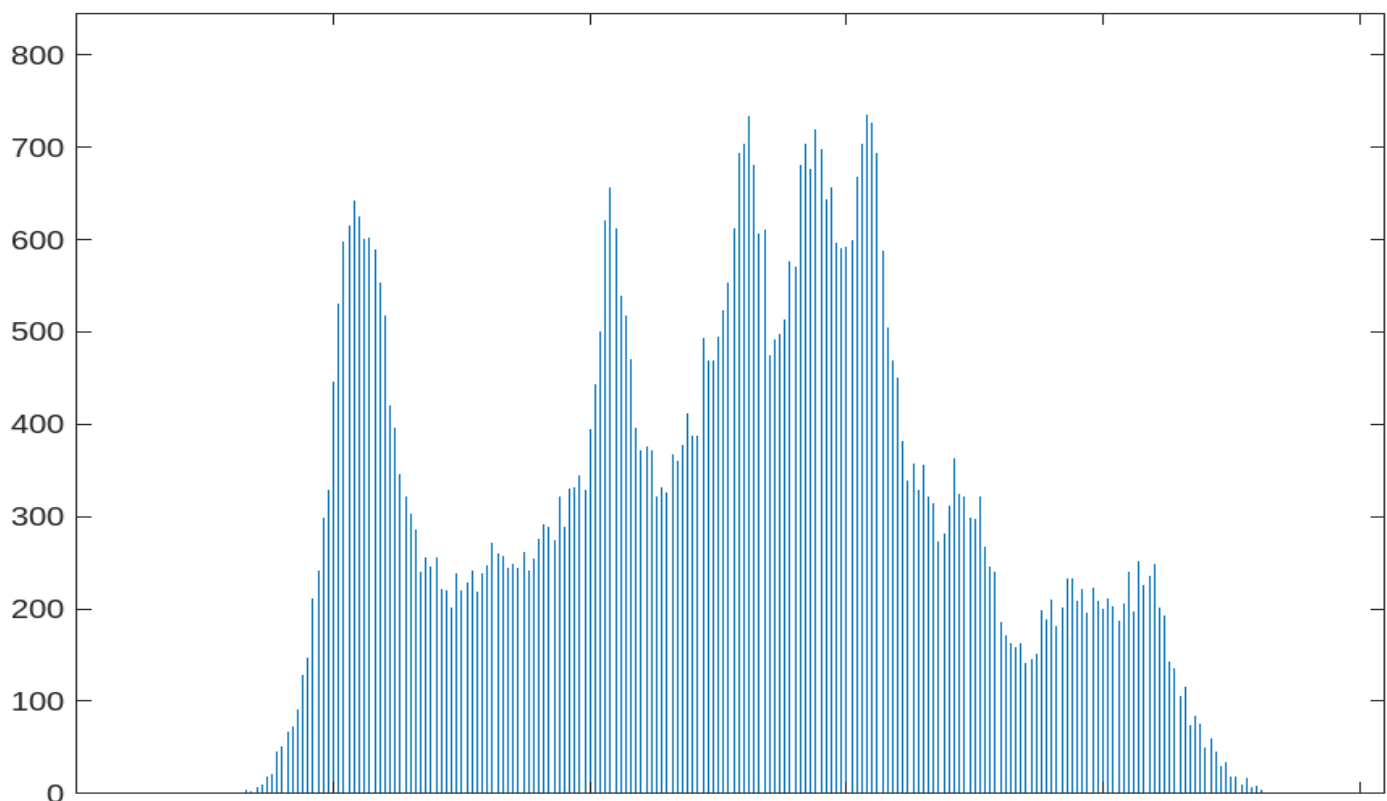
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ENROLLMENT NO : 2021ETB019

Qs – 01>

```
clear all
clc
i = imshow('lena.jpg');
j = imread('lena.jpg');
figure
imhist(j);
```

Results:



Qs – 02 >

```
clear all
clc
i = imread('butterfly.png');
g = rgb2gray(i);
imshow(g);

figure
n = imcomplement(g);
imshow(n);
```

Results :



Original Colour image



grayscale image



Negative of grayscale image

Qs – 03 >

```
clear all
clc
i = imread('lena.jpg');
imshow(i);
% addition of salt & pepper noise
n = imnoise(i,"salt & pepper");
figure
imshow(n);
h = ones(10,10)/90;
f1 = imfilter(n,h);
figure
imshow(f1);
f2 = medfilt2(n);
figure
imshow(f2);
```

Results :

Original image ->

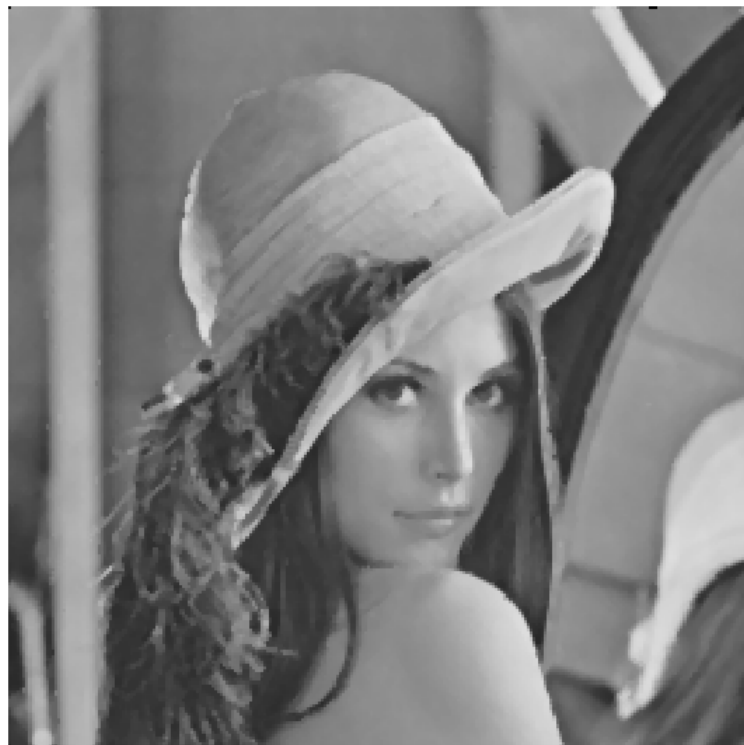




Noisy image



Mean filtered image

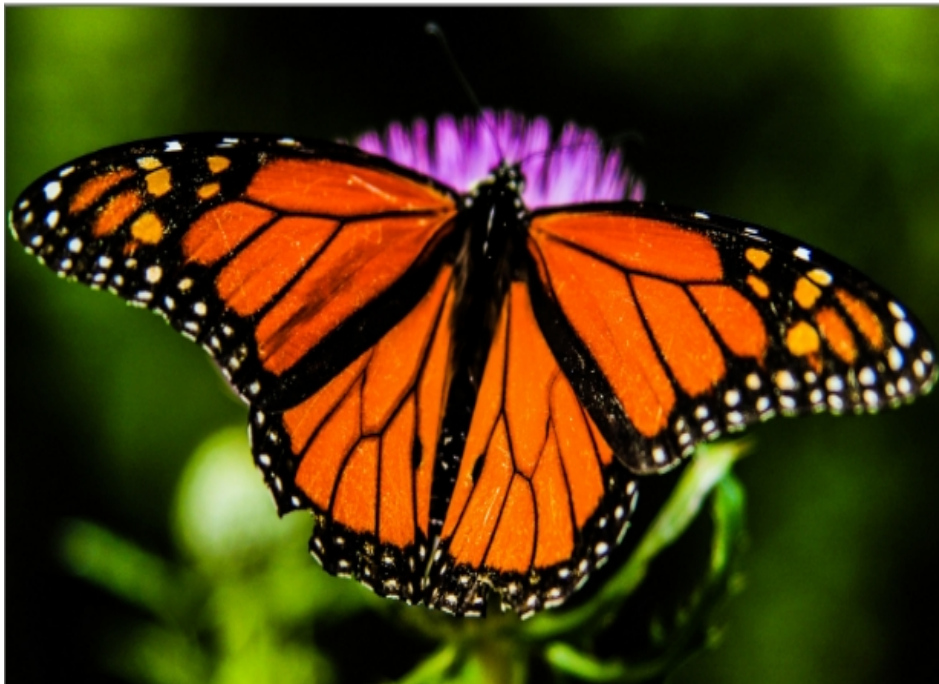


Median filtered image

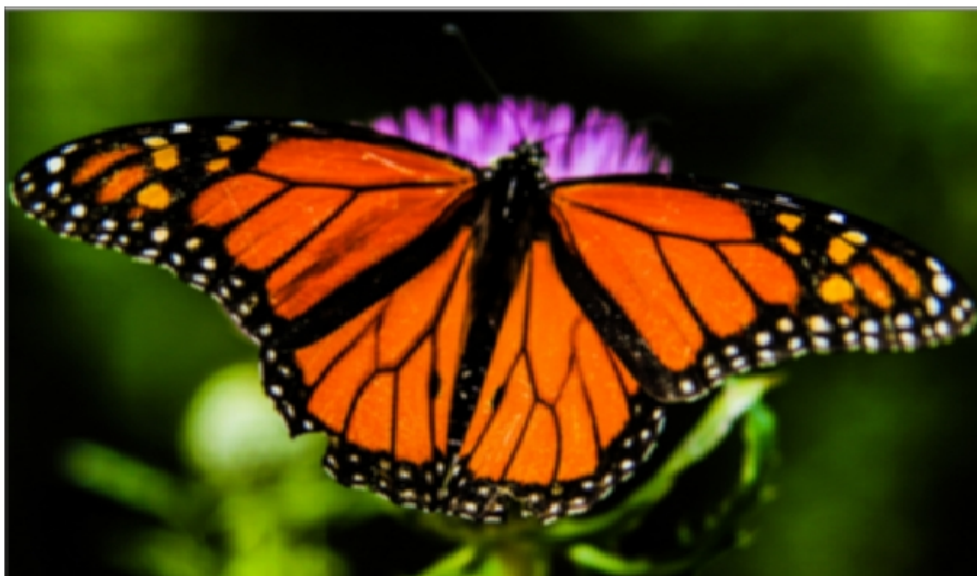
Qs – 04 >

```
clear all
clc
i = imread('butterfly.png');
imshow(i);
% for m = 9, by changing this value we can get other square avg filtered image
hs = [9 9];
h = fspecial('average',hs);
f = imfilter(i,h);
figure
imshow(f);
```

Results :



Original image



Square avg filtered image when m=3



Square avg filtered image when $m=9$



Square avg filtered image when $m=15$

