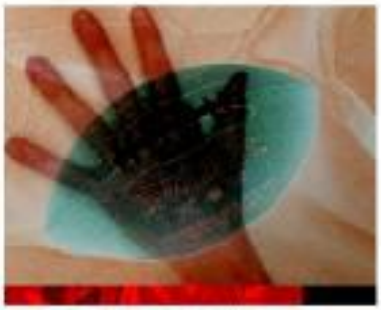
1)Addition of two images.

```
a=imread('rice.png');
b=imread('cameraman.tif');
subplot(1,3,1);
imshow(a);
c=imresize(b,[size(a,1) size(a,2)]);
subplot(1,3,2);
imshow(c);
for i=1:size(a,1)
    for j=1:size(a,2)
output(i,j)=(a(i,j)+c(i,j));
    end
end
subplot(1,3,3);
imshow(output);
```

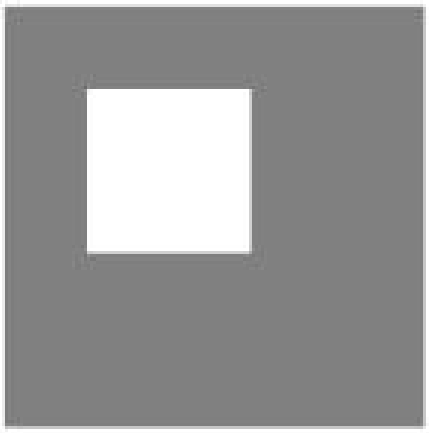
2)Subtract one image from other image.

```
a=imread('hands1.jpg');
b=imread('football.jpg');
subplot(1,3,1);
imshow(a);
c=imresize(b,[size(a,1) size(a,2)]);
subplot(1,3,2);
imshow(c);
for i=1:size(a,1)
    for j=1:size(a,2)
        for k=1:3
output(i,j,k)=(a(i,j,k)-c(i,j,k));
        end
    end
end
subplot(1,3,3);
imshow(output);
```



3)Perform division of images

```
A=imread('cameraman.tif');
B=0.5+zeros(size(A));
B(51:150,51:150)=1;
subplot(1,3,1);
imshow(A);
subplot(1,3,2);
imshow(B);
subplot(1,3,3)
C=double(A)./B;
subplot(1,3,3);
imshow(uint8(C));
```



4)Calculate mean value of an image and also of more than one images

```
A=imread('cameraman.tif');
B=imread('pout.tif');
C=imresize(B,[size(A,1) size(A,2)]);
D=mean2(C);
disp(D);
for i=1:size(A,1)
    for j=1:size(A,2)
output(i,j)=(A(i,j)+C(i,j))/2;
    end
end
imshow(output);
```

5)AND operation between two images.

```
D=imread('cameraman.tif');
subplot(1,3,1);
imshow(D);
E=imread('pout.tif');
F=imresize(E,[size(D,1) size(D,2)]);
subplot(1,3,2);
imshow(F);
subplot(1,3,3);
G=bitand(D,F);
imshow(G);
```

6)OR operation between two images.

```
a=imread('cameraman.tif');
subplot(1,3,1);
imshow(a);
b=imread('pout.tif');
c=imresize(b,[size(a,1) size(a,2)]);
subplot(1,3,2);
imshow(B);
subplot(1,3,3);
d=bitor(a,c);
imshow(d);
```

7)Calculate intersection of two images and display the intersection image.

```
a=imread('cameraman.tif');
subplot(1,3,1);
imshow(a);
b=imread('pout.tif');
c=imresize(b,[size(a,1) size(a,2)]);
subplot(1,3,2);
imshow(b);
subplot(1,3,3);
d=bitand(a,c);
imshow(d);
```

8)Water Marking using EX-OR operation.

```
a=imread('triangle.png');
subplot(1,3,1);
imshow(a);
b=imread('pout.tif');
c=imresize(b,[size(a,1) size(a,2)]);
subplot(1,3,2);
imshow(b);
d=bitxor(a,c);
subplot(1,3,3);
imshow(d);
```

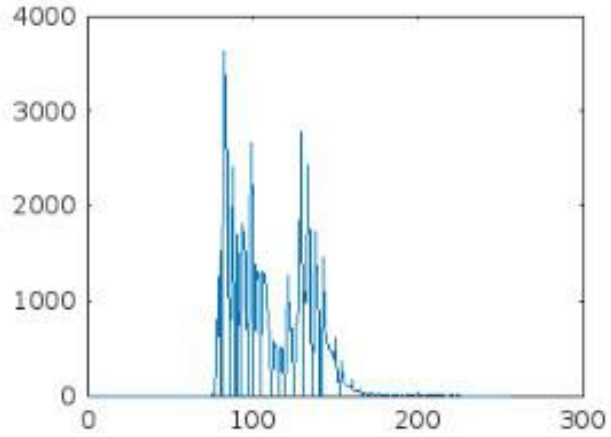
9)Histogram Equalization Without built-in function.

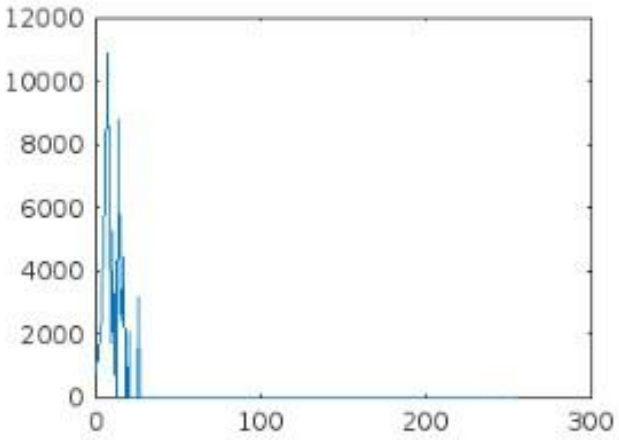
```
a=imread('pout.tif');
b=size(a);
a=double(a);
hist1=zeros(1,256);
for i=1:b(1)
    for j=1:b(2);
        for k=0:255
            if a(i,j)==k
                hist1(k+1)=hist1(k+1)+1;
            end
        end
    end
end
pdf=(1/(b(1)*b(2)))*hist1;

cdf=zeros(1,256);
cdf(1)=pdf(1);
for i=2:256
    cdf(i)=pdf(i-1)+pdf(i);
end
cdf=round(256*cdf);

ep=zeros(b);
for i=1:b(1)
    for j=1:b(2)
        t=(a(i,j)+1);
        ep(i,j)=cdf(t);
    end
end

hist2=zeros(1,256);
for i=1:b(1)
    for j=1:b(2)
        for k=0:255
            if ep(i,j)==k
                hist2(k+1)=hist2(k+1)+1;
            end
```





10)Adding objects to an external scenary using the the above operator(s)

```
bg = imread("scene.jpg");
a = imread("tom.jpg");
b = imread("jerry.jpg");
a = imresize(a,[size(bg,1),size(bg,2),]);
b = imresize(b,[size(bg,1),size(bg,2),]);
bg(a > 15) = a(a > 15);
bg(b > 15) = b(b > 15);
imshow(bg);
```