AIM:

Write and execute the MATLAB Code to learn the conversion

of color image to grey level image, contrast stretching,

intensity level slicing, and bit-plane slicing.

Refer the Lenna.tif color image and perform the following:

(i) Convert the given image to grey level image and visualize

the obtained image.(ii) Obtained the Negative Image of the result obtained in (i).

(iii) Take suitable Transformation function and perform

contrast stretching on the image obtained in (i).

(iv) Take suitable Transformation function and perform

intensity level slicing on the image obtained in (i).

(v) Perform bit-plane slicing on the image obtained in (i).

(vi) Plot the result obtained in (i), (ii), (iii) and (iv) (Single

plot consists of 6 images including original color image).

(vii) Plot the result obtained in (v) (Single plot consists of 8

images).

I=imread('C:\Users\jadha\Desktop\dipimage\Lenna.tif');

r=rgb2gray(I);

figure

imshow(r);

Ig50=r+50;

Ig50b=r-50;

Ig100=r+100;

Ig100b=r-100;

figure

subplot(2,2,1),imshow(Ig50);

subplot(2,2,2),imshow(Ig50b);

subplot(2,2,3),imshow(Ig100);

subplot(2,2,4),imshow(Ig100b);

[x,y,z]=size(Ig50);

arr=zeros(1,(x\*y));

m=1;

for i=1:x

for j=1:y

arr(m)=Ig50(i,j);

m=m+1;

end

end

figure

hist(arr);

title('First Histogram of Addition of 50');

[x,y,z]=size(Ig50b);

arr=zeros(1,(x\*y));

m=1;

for i=1:x

for j=1:y

arr(m)=Ig50b(i,j);

m=m+1;

end

end

figure

hist(arr);

title('First Histogram of Subtraction of 50');

[x,y,z]=size(Ig100);

arr=zeros(1,(x\*y));

m=1;

for i=1:x

for j=1:y

arr(m)=Ig100(i,j);

m=m+1;

end

end

figure

hist(arr);

title('First Histogram of Addition of 100');

[x,y,z]=size(Ig100b);

arr=zeros(1,(x\*y));

m=1;

for i=1:x

for j=1:y

arr(m)=Ig100b(i,j);

m=m+1;

end

end

figure

hist(arr);

title('First Histogram of Addition of 100b');

heq=histeq(Ig50);

heq1=histeq(Ig50b);

heq2=histeq(Ig100);

heq3=histeq(Ig100b);

subplot(4,4,1);imshow(Ig50);title('Original image');

subplot(4,4,2);imshow(heq);title('Equalized image');

subplot(4,4,3);imshow(Ig50b);title('Original image');

subplot(4,4,4);imshow(heq1);title('Equalized image');

subplot(4,4,5);imshow(Ig100);title('Original image');

subplot(4,4,6);imshow(heq2);title('Equalized image');

subplot(4,4,7);imshow(Ig100b);title('Original image');

subplot(4,4,8);imshow(heq3);title('Equalized image');