

Contents

- Code compiled by Roshan R Rao

```
clc
clear all

fd=pwd;
```

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```
dat=imread('IMG_0018_panel.JPG');
[m n l]=size(dat);

MP=(m*n)./10^6           % to calculate how many pixels

red=dat(:,:,1);         % get R band
green=dat(:,:,2);       % get G band
blue=dat(:,:,3);        % get B band
red_blue=dat(:,:,1)-dat(:,:,3);

imwrite(red,'red.jpg');
imwrite(green,'green.jpg');
imwrite(blue,'blue.jpg');
imwrite(red_blue,'red-blue.jpg');

neg=255-dat;            % to create negative
neg_rb=255-red_blue;
imwrite(neg,'neg_RGB.jpg')
imwrite(neg_rb,'neg_R-B.jpg')

negr=255-red;           % to create negative for Red band
negg=255-green;        % to create negative for green band
negb=255-blue;         % to create negative for blue band
imwrite(negr,'neg_R.jpg')
imwrite(negg,'neg_G.jpg')
imwrite(negb,'neg_B.jpg')
imwrite(histeq(red),'hist_equal_red.jpg')
imwrite(histeq(red_blue),'hist_equal_rb.jpg')
imwrite(histeq(blue),'hist_equal_blue.jpg')
imwrite(histeq(green),'hist_equal_green.jpg')

BW1_red = edge(red,'sobel');           % edge detection
BW2_red = edge(red,'Prewitt');         % edge detection
BW1_green = edge(green,'sobel');       % edge detection
BW2_green = edge(green,'Prewitt');     % edge detection
BW1_blue = edge(blue,'sobel');         % edge detection
BW2_blue = edge(blue,'Prewitt');       % edge detection
BW1_red_blue = edge(red_blue,'sobel'); % edge detection
BW2_red_blue = edge(red_blue,'Prewitt'); % edge detection

BW1_neg_rb = edge(neg_rb,'sobel'); % edge detection
BW2_neg_rb = edge(neg_rb,'Prewitt'); % edge detection

BW1_negr = edge(negr,'sobel'); % edge detection
BW2_negr = edge(negr,'Prewitt'); % edge detection

BW1_negb = edge(negb,'sobel'); % edge detection
BW2_negb = edge(negb,'Prewitt'); % edge detection

BW1_negg = edge(negg,'sobel'); % edge detection
BW2_negg = edge(negg,'Prewitt'); % edge detection

imwrite(BW1_red,'BW1_red.jpg')
imwrite(BW2_red,'BW2_red.jpg')
imwrite(BW1_green,'BW1_green.jpg')
imwrite(BW2_green,'BW2_green.jpg')
imwrite(BW1_blue,'BW1_blue.jpg')
imwrite(BW2_blue,'BW2_blue.jpg')

imwrite(BW1_red_blue,'BW1_red_blue.jpg')
imwrite(BW2_red_blue,'BW2_red_blue.jpg')

imwrite(BW1_neg_rb,'BW1_neg_rb.jpg')
imwrite(BW2_neg_rb,'BW2_neg_rb.jpg')

imwrite(BW1_negr,'BW1_negr.jpg')
imwrite(BW2_negr,'BW2_negr.jpg')

imwrite(BW1_negb,'BW1_neg_b.jpg')
imwrite(BW2_negb,'BW2_neg_b.jpg')

imwrite(BW1_negg,'BW1_neg_g.jpg')
imwrite(BW2_negg,'BW2_neg_g.jpg')

hsv=rgb2hsv(dat);
imwrite(hsv(:,:,1),'hue.jpg');
imwrite(hsv(:,:,2),'sat.jpg');
imwrite(hsv(:,:,3),'val.jpg');

ybr=rgb2ycbcr(dat);
imwrite(ybr(:,:,1),'why.jpg');
imwrite(ybr(:,:,2),'cb.jpg');
imwrite(ybr(:,:,3),'cr.jpg');

cd(fd)
```

MP =

12.1667