

RGB channels

Split an color image to its 3 RGB channels.

Read image from the link

```
img = imread('pen.jpg'); % Read image
```

Taking the RGB image, img, and extracting the red, green, and blue parts and creating 3 2-D matrices: red, green, and blue.

```
red = img(:,:,1);  
green = img(:,:,2);  
blue = img(:,:,3);
```

create a 2-D array of zeros

```
a = zeros(size(img, 1), size(img, 2));
```

cat method return a image with specific color channel by setting others channel zero. cat method return a image with specific color channel by setting others channel zero.

```
just_red = cat(3, red, a, a);  
just_green = cat(3, a, green, a);  
just_blue = cat(3, a, a, blue);
```

showing these channel

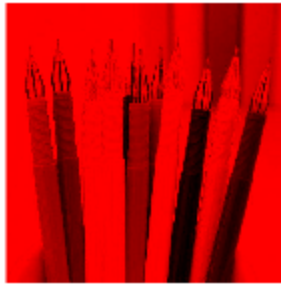
```
subplot(2,2,1);  
imshow(just_red), title('Red channel')
```

```
subplot(2,2,2);  
imshow(just_green), title('Green channel')
```

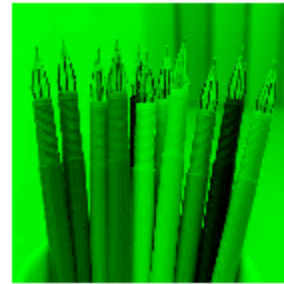
```
subplot(2,2,3);  
imshow(just_blue), title('Blue channel')
```

```
back_to_original_img = cat(3, red, green, blue);  
subplot(2,2,4);  
imshow(back_to_original_img), title('Back to original image')
```

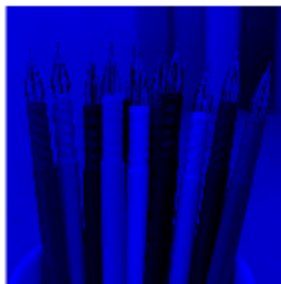
Red channel



Green channel



Blue channel



Back to original image



Importance :

Each natural color can be approximated by a combination of the three basic colors. Each basic color of an image stored in a group accidental data called channel. In this way we can observe the tendency of the dominant basic color in an image for a specific analysis needs.

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