

```
clear all;
close all;
clc

% Read the image
I = imread('BLANK.jpg'); % I -> Original color image

% only red color
Ir = I; % Ir -> Image with only the red color
Ir(:, :, 2) = 0; % green channel to 0
Ir(:, :, 3) = 0; % blue channel to 0

% For only green color
Ig = I; % Ig -> Image with only the green color
Ig(:, :, 1) = 0; % red channel to 0
Ig(:, :, 3) = 0; % blue channel to 0

% For only blue color
Ib = I; % Ib -> Image with only the blue color
Ib(:, :, 1) = 0; % red channel to 0
Ib(:, :, 2) = 0; % green channel to 0

% Converting the color image into a grayscale image using the inbuilt function
IG = rgb2gray(I); % IG -> Grayscale image

% Display the images in subplots
subplot(2,3,1), imshow(I), title('Original Image');
subplot(2,3,2), imshow(IG), title('Grayscale Image');
subplot(2,3,3), imshow(Ir), title('only Red Color');
subplot(2,3,4), imshow(Ig), title('only Green Color');
subplot(2,3,5), imshow(Ib), title('only Blue Color');
```

**Original Image**



**Grayscale Image**



**only Red Color**



**only Green Color**



**only Blue Color**

