

Code:

```
clc;
clear all;
close all;

a = imread('color_wheel_1.jpg');
subplot(2,3,1);
imshow(a);
title('Original Image');

b = rgb2gray(a);
subplot(2,3,2);
imshow(b);
title('Grayscale Image');

[m n o] = size(a)
cropImage = a(m/2:m, m/2:n);
subplot(2,3,3);
imshow(cropImage);
title('Cropped Image');

allzeros = zeros(m,n);

Red = a(:, :, 1);
Green = a(:, :, 2);
Blue = a(:, :, 3);

showRed = cat(3, Red, allzeros, allzeros);
subplot(2,3,4);
imshow(showRed);
```

```
title('Red Color');
```

```
showGreen = cat(3,allzeros, Green, allzeros);
```

```
subplot(2,3,5);
```

```
imshow(showGreen);
```

```
title('Green Color');
```

```
showBlue = cat(3,allzeros, allzeros,Blue);
```

```
subplot(2,3,6);
```

```
imshow(showBlue);
```

```
title('Blue Color');
```

Output:

