```matlab
clc;
clear all;
close all;

a=imread('fig1.jpg');
r=a(: ,: ,1);                   %separate red component from
 colouredd image
g=a(:,:,2);
b=a(:,:,3);
grayimg=rgb2gray(a);            %coloured to gray for original image
sub_r=imsubtract(r,grayimg);    %subtract coloured red and gray
sub_g=imsubtract(g,grayimg);
sub_b=imsubtract(b,grayimg);

bin_r=imbinarize(sub_r);        %gray into binary
bin_g=imbinarize(sub_g);
bin_b=imbinarize(sub_b);
cout=imshow(bin_r);             %show image

count_red=bwconncomp(bin_r);    %count number of red objects
count_green=bwconncomp(bin_g);
count_blue=bwconncomp(bin_b);

numobj1=count_red.NumObjects;   %count number of red images
numobj2=count_green.NumObjects;
numobj3=count_blue.NumObjects;

bound_r=regionprops(bin_r);     %to draw the regions around red image
bound_g=regionprops(bin_g);
bound_b=regionprops(bin_b);

imshow(a);                      %taken original image
hold on;

for i=1:numobj1
    rectangle('Position',bound_r(i,1).BoundingBox,'EdgeColor','g');
    plot(bound_r(i,1).Centroid(1),bound_r(i,1).Centroid(2),'bo')
  %to plot the centroid
end

for i=1:numobj2
    rectangle('Position',bound_g(i,1).BoundingBox,'EdgeColor','r');
    plot(bound_g(i,1).Centroid(1),bound_g(i,1).Centroid(2),'bo')
  %to plot the centroid
end

for i=1:numobj3
    rectangle('Position',bound_b(i,1).BoundingBox,'EdgeColor','y');
    plot(bound_b(i,1).Centroid(1),bound_b(i,1).Centroid(2),'y*')
  %to plot the centroid
end
hold off;
```
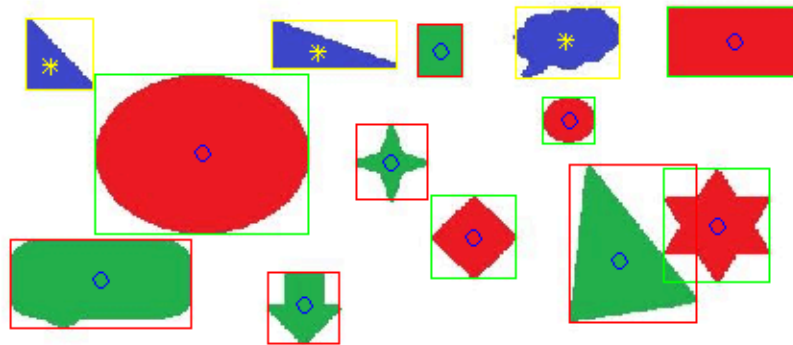
```
%yellow for blue recogination
%green for red recogination
%red for green recogination
```


Published with MATLAB® R2019a