# EXPERIMENT – 3

## Aim:

To read and display an image and find it centroid. Also, to extract its metadata.

## Software used:

MATLAB

## Theory:

A = imread (filename) reads the image from the file specified by filename, inferring the format of the file from its contents. If filename is a multi-image file, then imread reads the first image in the file.

imshow([I](https://in.mathworks.com/help/matlab/ref/imshow.html#bvmnrxi-1-I)) displays the grayscale image I in a figure. imshow uses the default display range for the image data type and optimizes figure, axes, and image object properties for image display. imshow([RGB](https://in.mathworks.com/help/matlab/ref/imshow.html#d123e740497)) displays the TrueColor image RGB in a figure. imshow([BW](https://in.mathworks.com/help/matlab/ref/imshow.html#d123e740549)) displays the binary image BW in a figure. For binary images, imshow displays pixels with the value 0 (zero) as black and 1 as white.

STATS = regionprops (L, properties) measures a set of properties for each labelled region in the label matrix L. Positive integer elements of L correspond to different regions. For example, the set of elements of L equal to 1 corresponds to region 1; the set of elements of L equal to 2 corresponds to region 2; and so on.

The image info function to create an Image Information tool. The tool displays information about the basic attributes and metadata of the target image in a separate figure. image info creates an Image Information tool associated with the image in the current figure.

## Code:

%read and display the image

image = imread("/MATLAB Drive/927310.jpg")

imshow(image)



%centroid of image

s = regionprops(image,'centroid');

centroids = cat(1,s.Centroid);

imshow(image)

hold on

plot(centroids(:,1),centroids(:,2),'b\*')

hold off



%metadata of image

info = imfinfo('/MATLAB Drive/927310.jpg') Text

Description automatically generated

Text

Description automatically generated

## Result:

Hence, read and displayed an image and found it centroid. Also, extracted its metadata.