

# Image Representation

---

1. Read a gray scale Image.
  - (a) Compute size, mean and variance of it.
  - (b) Crop a part of it.
2. Read a gray scale Image.
  - (a) Compute centre point of it.
  - (b) Show only region 'B'.
  - (c) Display sector ('M').
3. Read 4 gray scale images and concatenate those 4 images.
4. Read a RGB image and convert it to gray scale image by applying suitable weightage.
5. Read a RGB image and separate R, G, & B components to generate 3 images.
6. Read two RGB images X and Y of size 100\*100 with intensity values 0 and 255 respectively in each channel. Then create a new RGB image XXY and all other possibilities (XYX, XYY etc.) in order to generate secondary colour images.
7. Make a gray scale chess-board.
8. Visualise an image as a Surface.

# Intensity Transformation

---

Note: If your intensity value go beyond 0 and 255 use "imshow ( im, [])" .

1. Read a gray scale image.
  - (a) Display its compliment.
  - (b) Apply same for RGB image.
2. Read a gray scale image.
  - (a) Put 0 for intensity range less than 120.
  - (b) 255 otherwise.
3. Apply log transformation  $f(r) = c \log(1 + r)$  where c is user defined.
4. Apply  $f(r) = c r^\gamma$ .
5. Piece wise linear function.  $y = \frac{x}{2}$  for 0 to 30.  
 $y = 2x - 45$  for 31 to 150.  
 $y = \frac{x}{2}$  for 151 to 255.
6. Implement the given note.