Problem Description

Our Problem is counting number of fingers from image. Some images of hand will be given as input. We have to find how many fingers are up in the image.

Input Description

1. Number of image: There are total 5 images of hand. Different number of fingers are up in different image.
2. Dimensions: The dimension of each images are 742x 680 pixels.
3. Format: png (Transparent Background).

Complete the following tasks

1: Read Input Images.

2: Convert the images of step 1 to Binary Image.

3: Count number of objects (fingers) by using **bwlabel** function for each image. You can use disk shaped structured elements (call **strel('disk',RADIUS)** to get disk shaped structured element) for performing erosion/dilation. All you need is to extract fingers from the palm. Then count the number of fingers. You can use some library functions to remove noises if necessary.

Functions that could be useful for completing the task

1. **imread('directory_of_image/image.format'):** Reading image.
2. **subplot(row,colunm,index):** Subploting image in index position on a row*column grid.
3. **imshow(image):** Showing image.
4. **im2bw(image,level) :** Converting image to binary with threshold=level.
5. **strel('disk',r):** Return disk shaped structured element of radius r.
6. **imerode(image,se):** Return eroded image after performing erosion with se.
7. **imdilate(image,se):** Return dilated image after performing dilation with se.
8. **bwareaopen(image,n):** Remove objects which are less than n pixel and return new image.
9. **imfill(image,'holes'):** Fill tiny holes on the image and return new image.
10. **bwlabel(image):** Return labeled object and number of object from the image.

Sample output is attached in the next page.

Sample Output: