**1. Original Image:** images of arbitrary sizes were used for analysis.

**2. Resizing**

* R1=imresize(I1,[256,256]);
* Image dimensions changed to 256x256; content remained visually similar.

**3. Grayscale Conversion**

* Gr1=im2gray(R1);
* Color information is removed; intensity preserved.

**4. Gaussian Blur**

* H=fspecial("gaussian",500);

Gs1=imfilter(Gr1,H);

* Image appears slightly blurred; sharp edges softened.

**5. Sharpening**

* Sh1=imsharpen(Gs1);
* Edge details became more pronounced.

**6. Histogram Equalization**

* Hist1=imhist(Sh1);
* Image appears brighter with more visible details in dark/bright regions.

**7. Binarization**

* B1=imbinarize(Gr1);
* Pixels are either 0 or 1; useful for object detection.

**8. Labelling Connected Regions**

* label=bwlabel(B1);
* Each region is assigned a label; useful for segmentation and counting.