Lab 4. Task 1- preparation task
Template for answers

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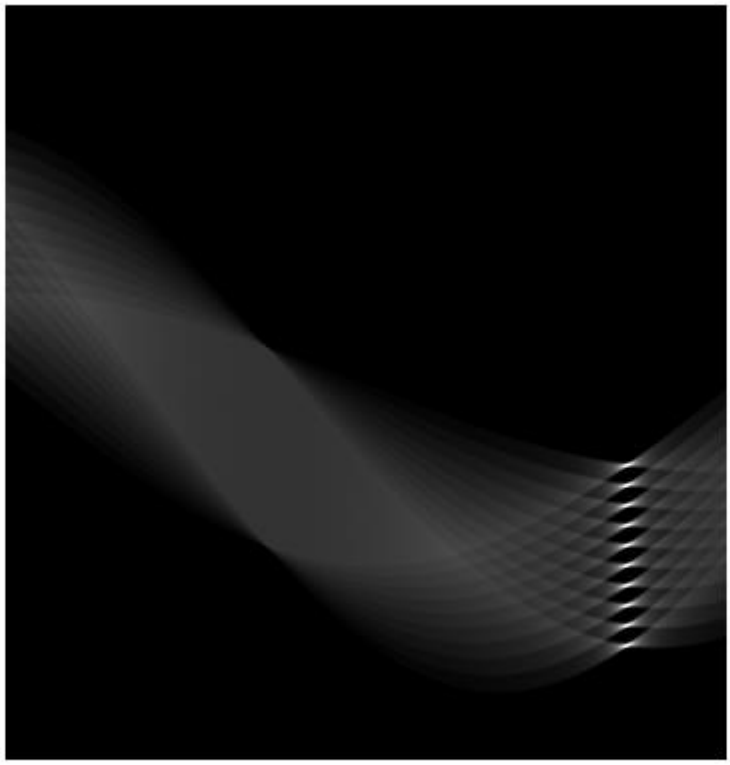
Version (in case you need to re-submit): 1

1) Hough transform

1) H1:



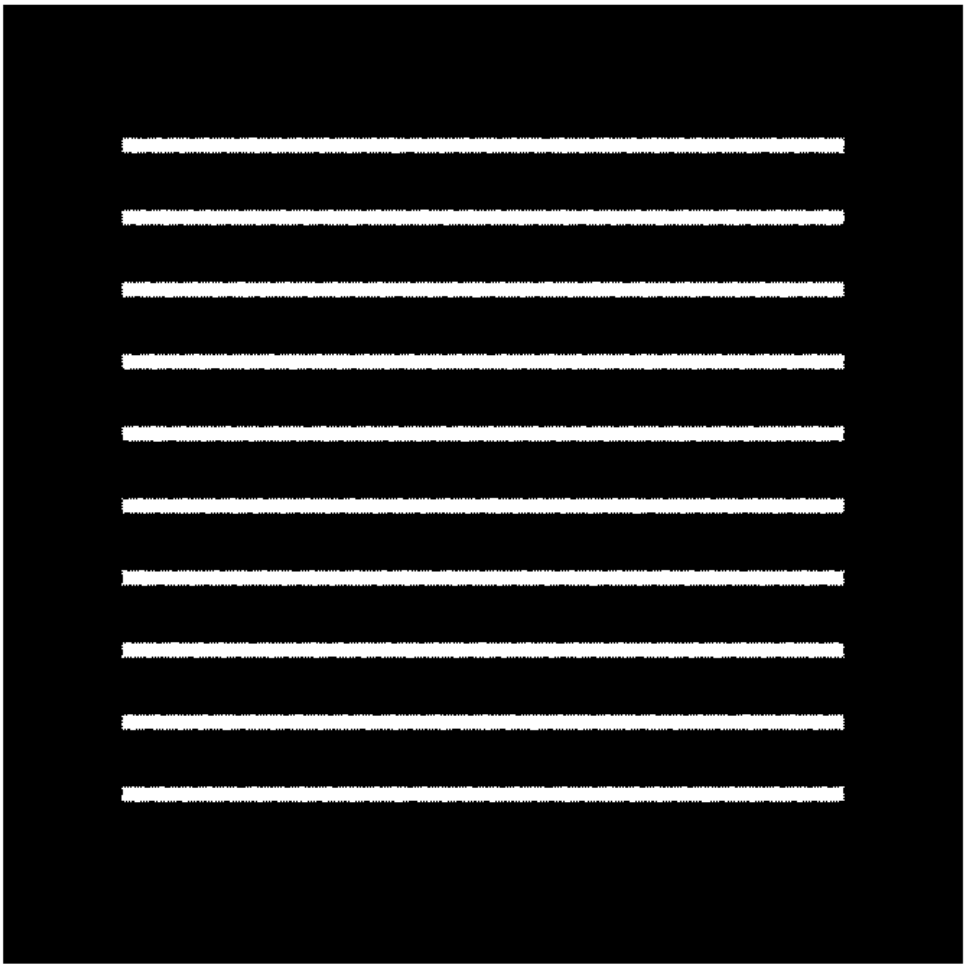
2) Your guess:
70 degrees

3) What is the exact angle corresponding to the lines in $Image1a$?

65 degrees

4) What is the angle of **clockwise** rotation to rotate $Image1a$ to the horizontal level? Use your answer from problem 3.
90-65 = 25 degrees (we rotated with -25, clockwise rotation)

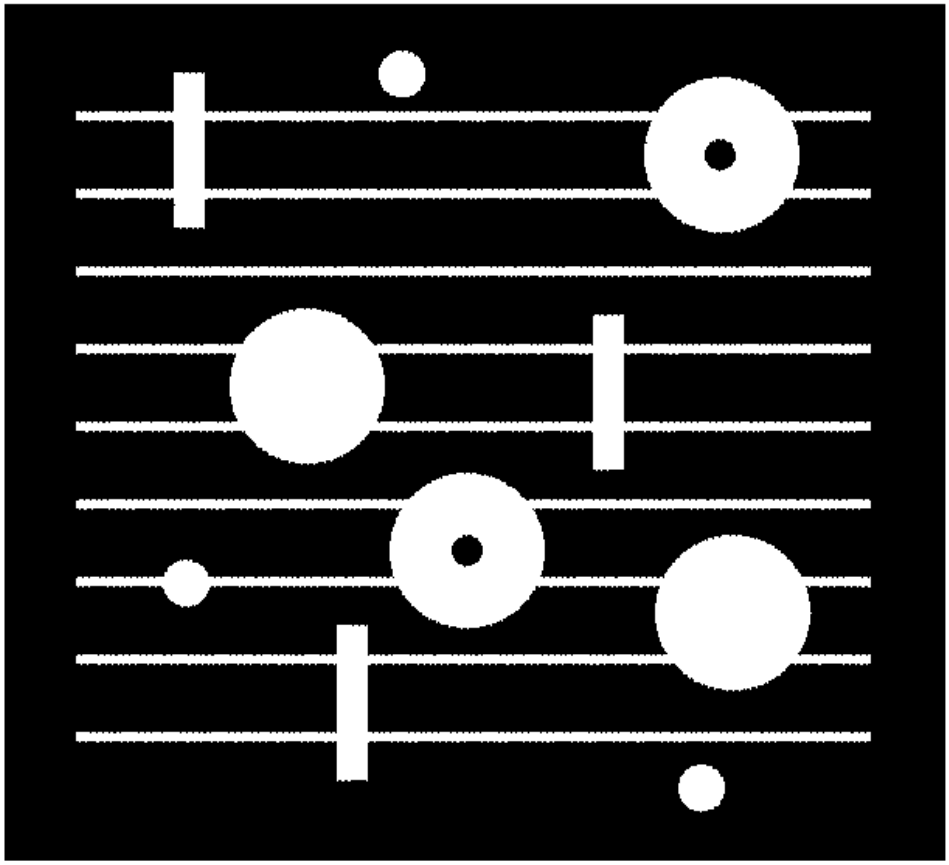
5) Image1a_rotated:



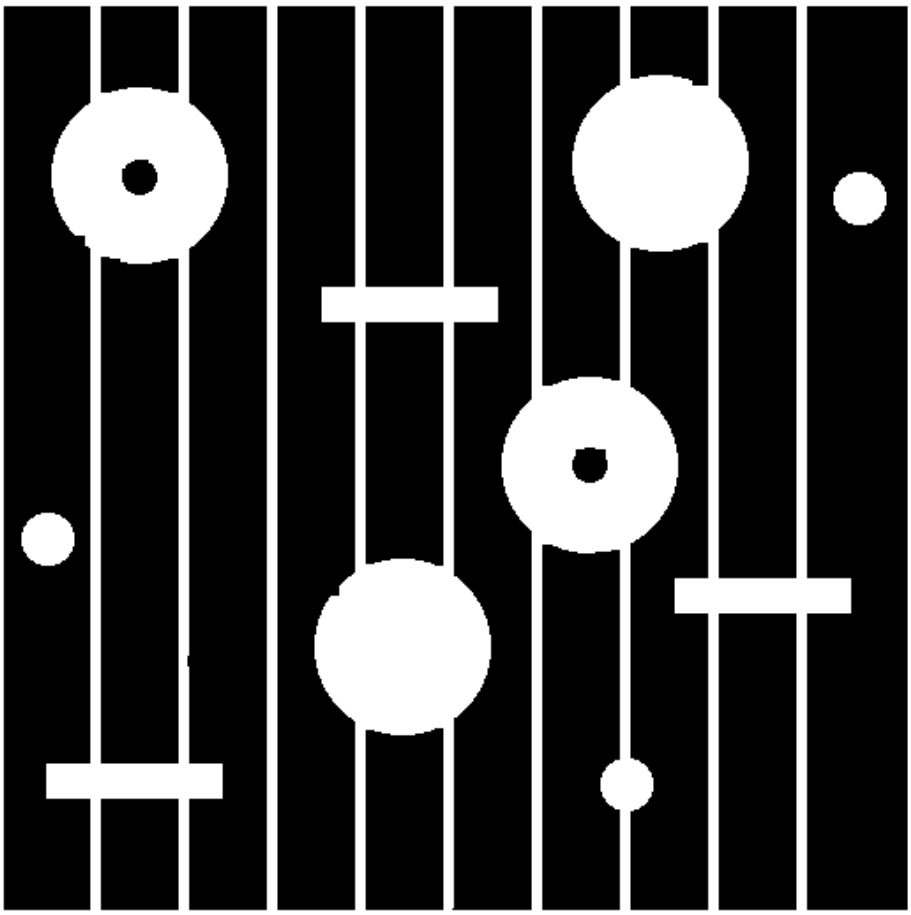
6) What is the exact angle corresponding to the straight lines in $Image1b$?
-75 degrees

7) What is the angle of **counterclockwise** rotation to rotate $Image1b$ to horizontal level? Use your answer from problem 6.
15 degrees (positive because of counterclockwise rotation)

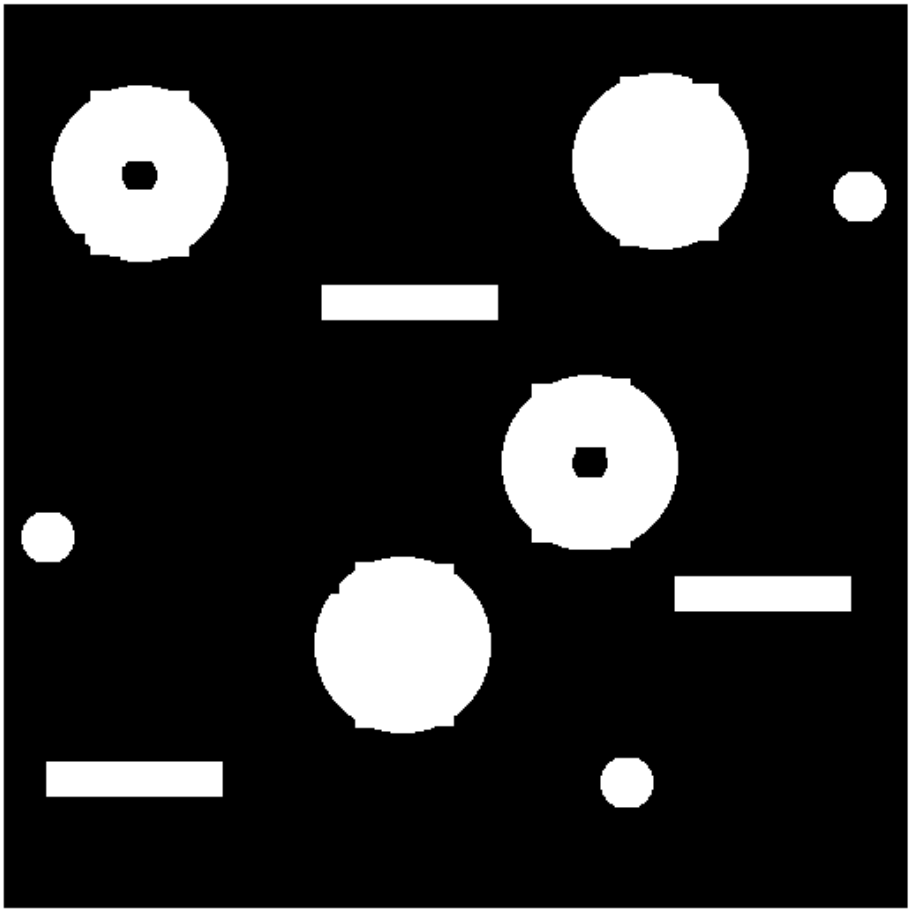
8) Image1b_rotated:



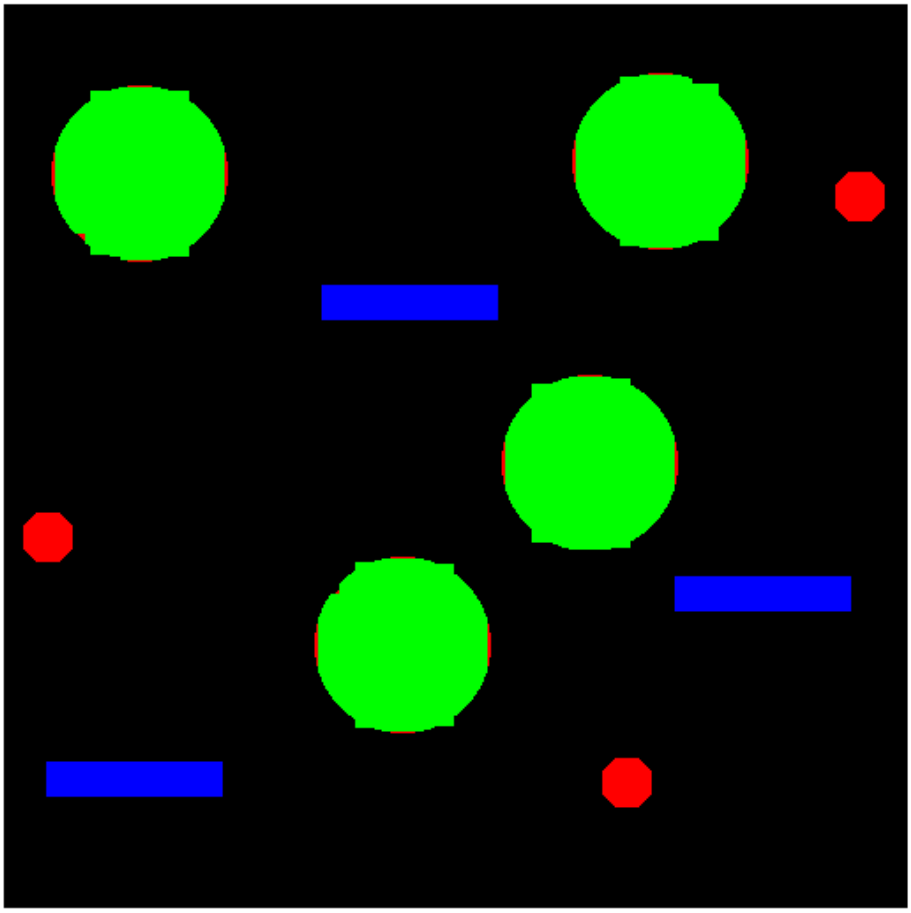
9) Image1c with noise removed:



10) Image1c_clean (noise and lines removed):



11) RGB-image displaying the 3 different classes of objects in different colors:



12) Your structuring element: SE = strel(…)
Segmented image with all the grains of rice:

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SE5 = strel("disk",15);
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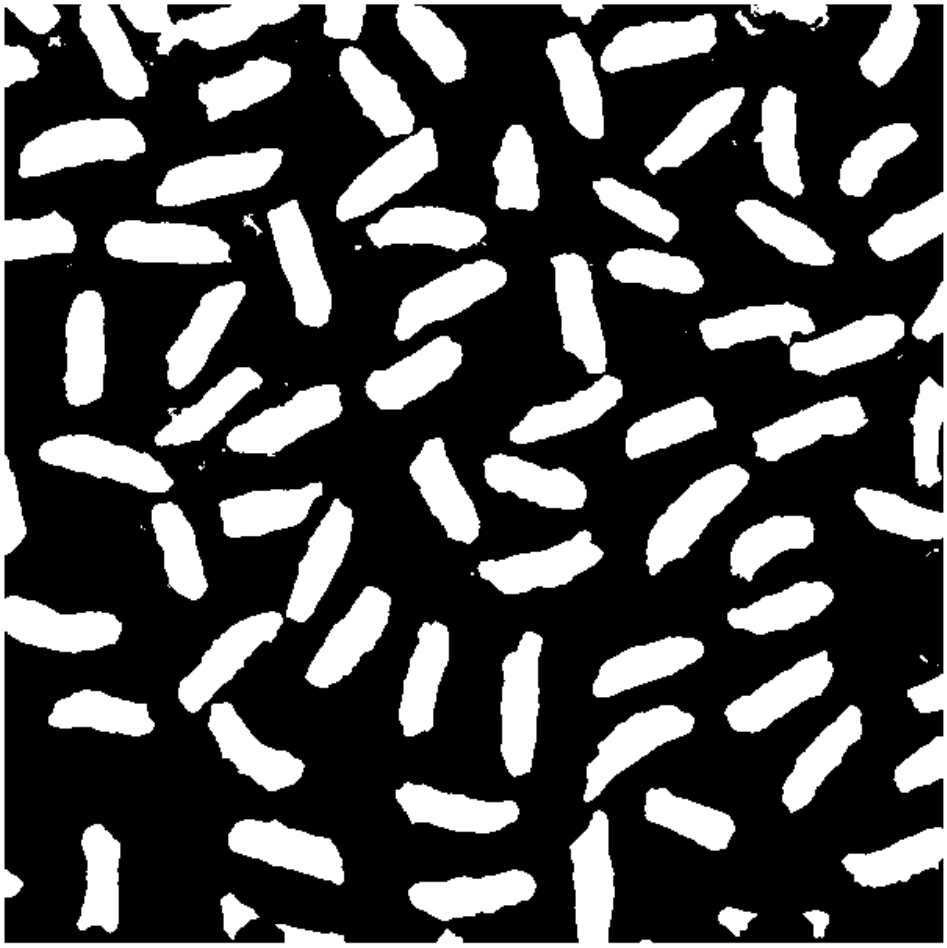
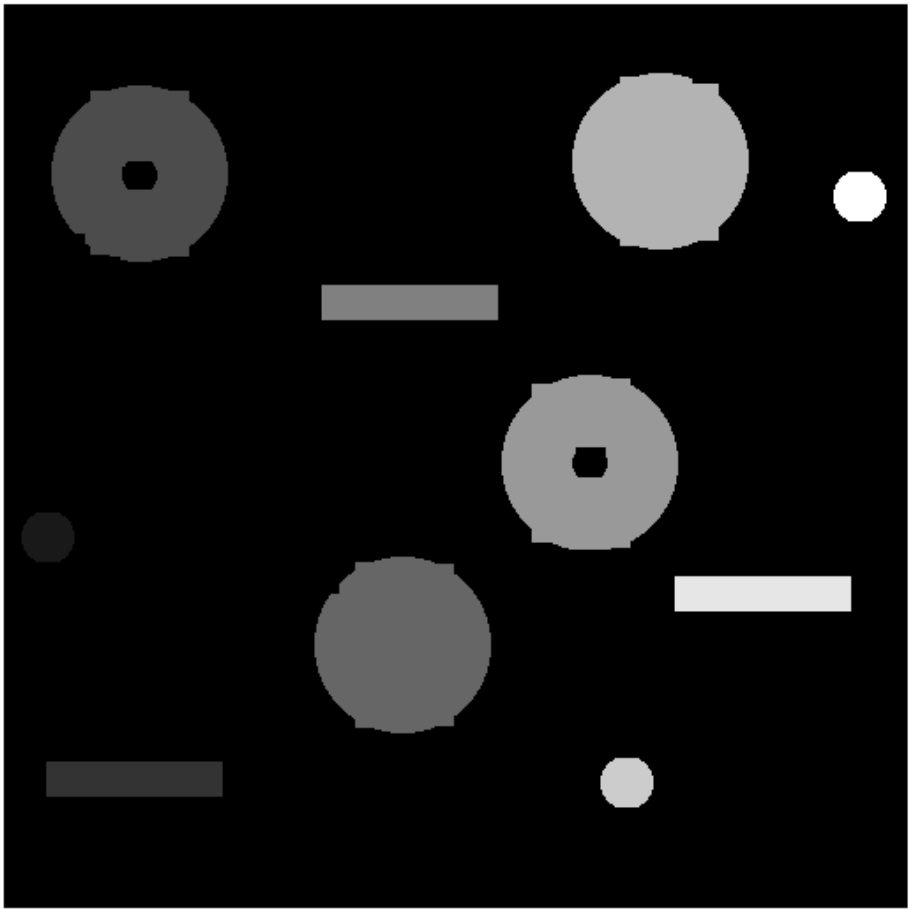
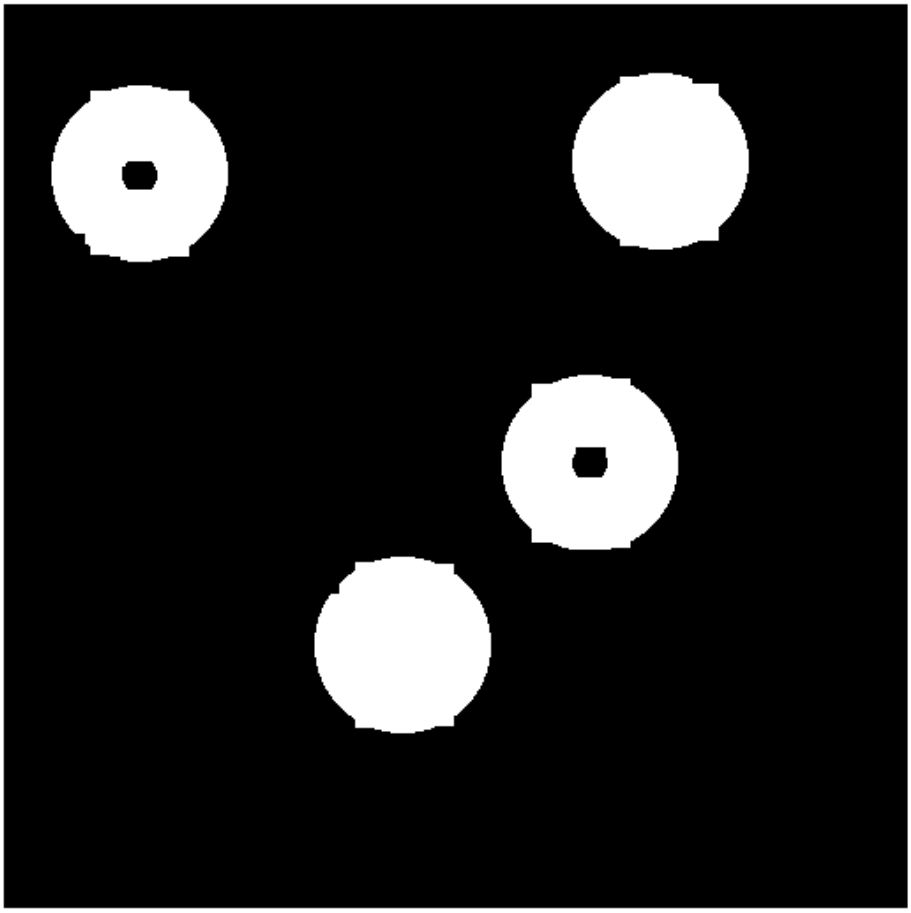


13) Labeled image, L, scaled by max value:



14) What are the perimeters for the large objects (having area > 3000 pixels)?
Image containing only the large objects:
Perimeter: 327.4740, 325.6300, 323.8520, 324.9850



15) What is your selected threshold value?
What are the labels of the objects belonging to the class with the smallest perimeter?

Threshold value is 130.
Labels is [1 8 10]

16) What are the labels of the objects belonging to the class with the largest perimeter, and that has no holes?
Image containing only objects having the largest perimeter, without holes:

Labels: [3 4 6 7]
Labels without holes: [4 7]

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