Lab 4. Task 1- preparation task
Template for answers

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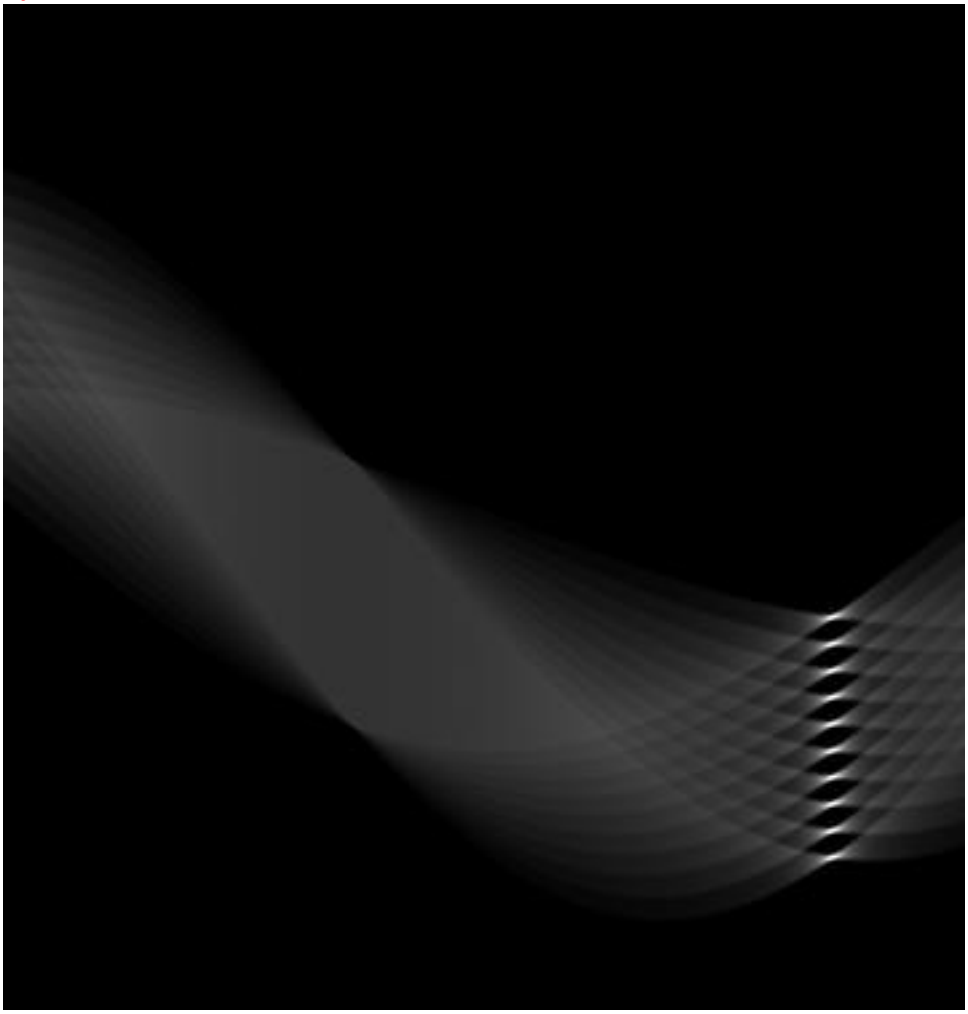
Version (in case you need to re-submit): 1

1) Hough transform

1) H1:

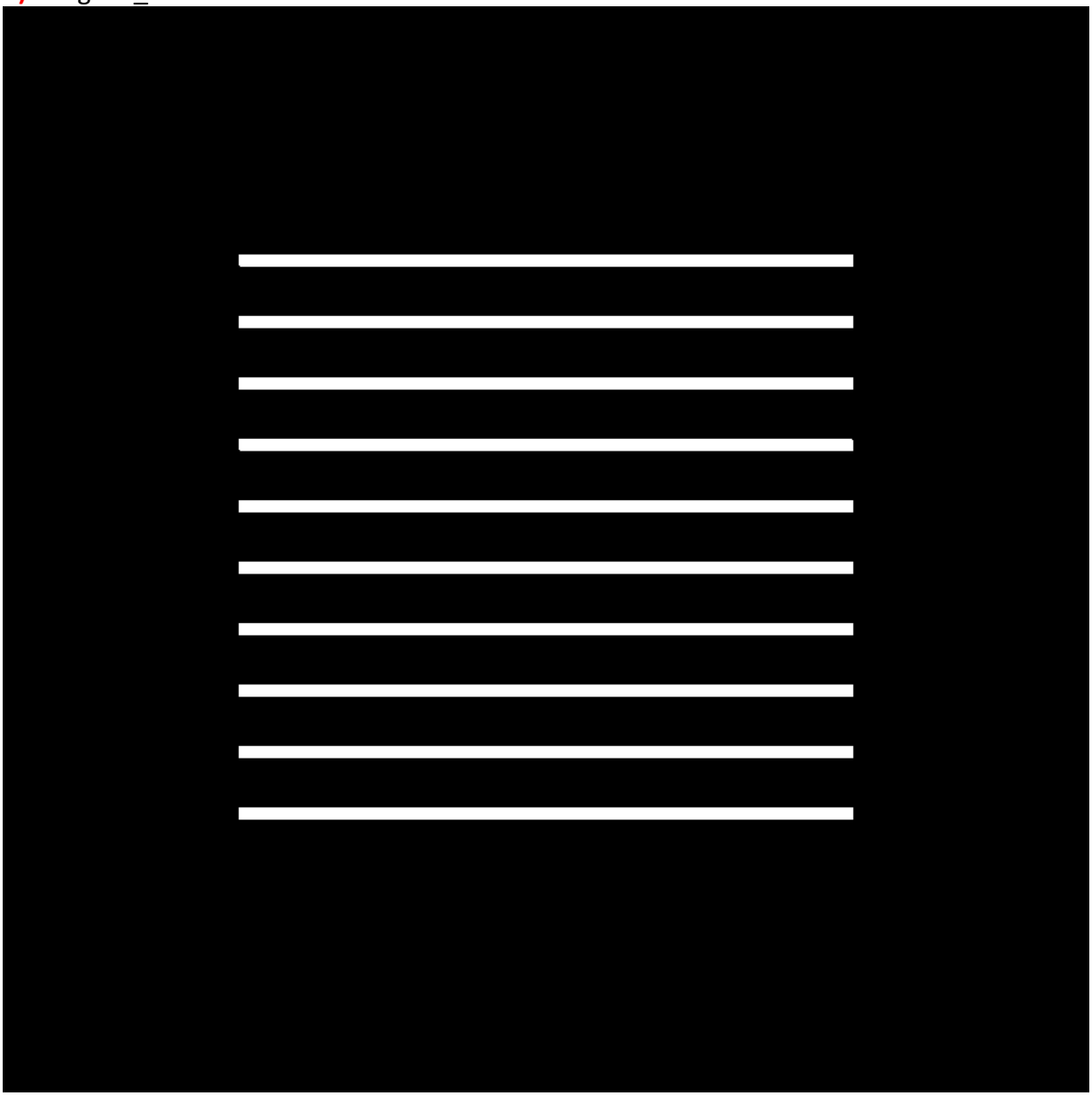


2) Your guess:
60 degrees maybe

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.
25 degrees, as 65 + 25 = 90

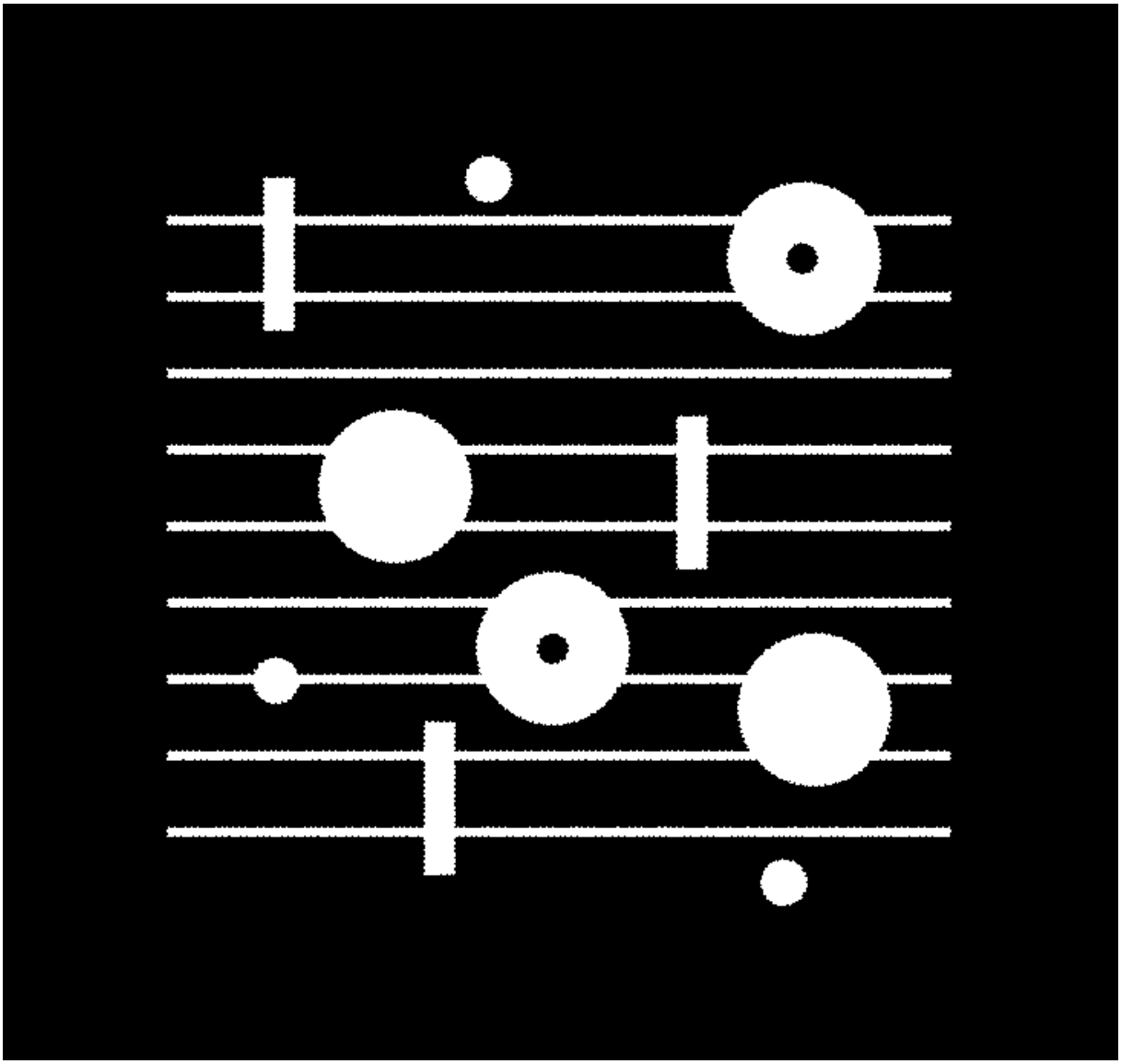
5) Image1a_rotated:



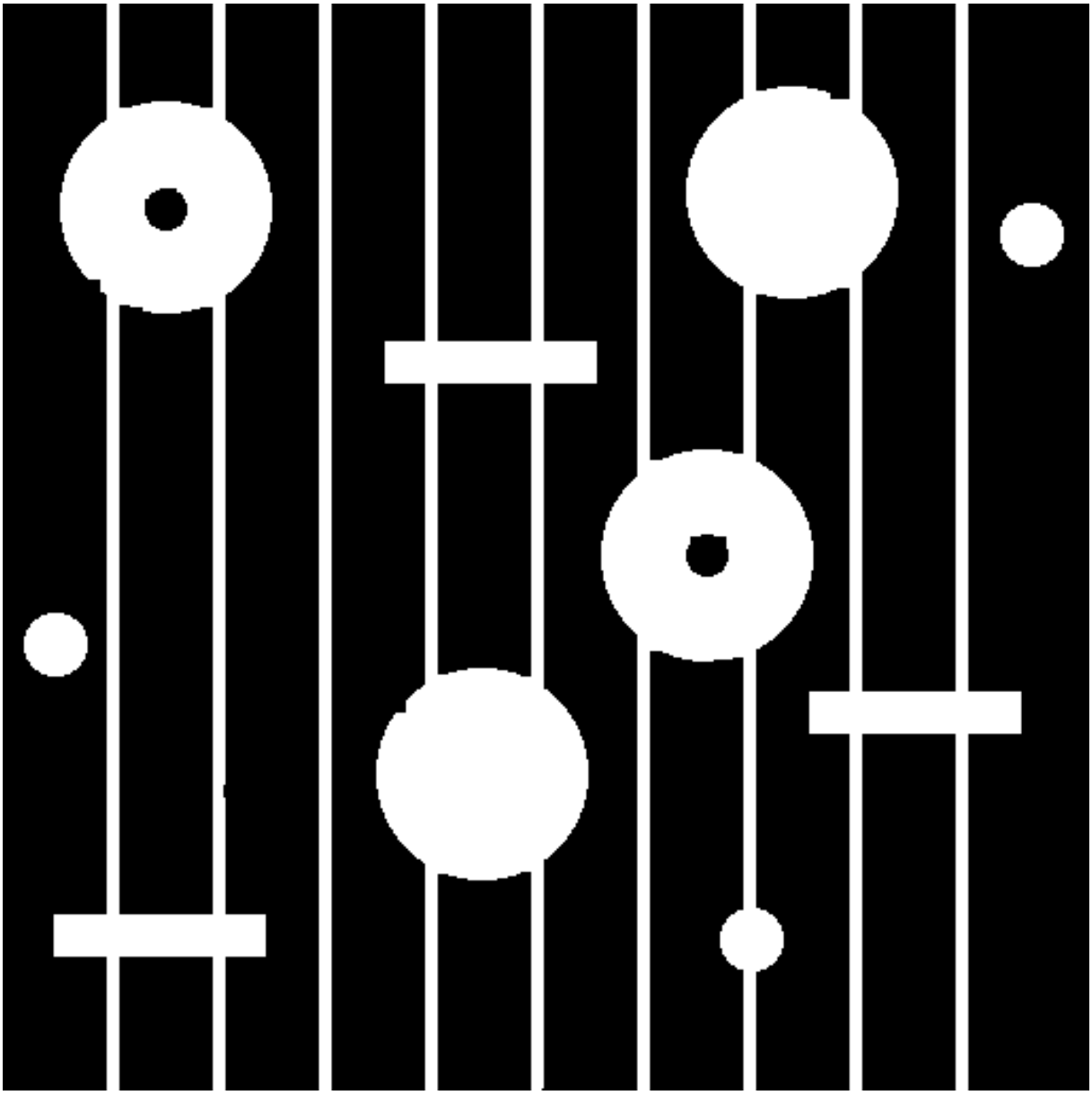
6) What is the exact angle corresponding to the straight lines in $Image1b$?
-75 degrees

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

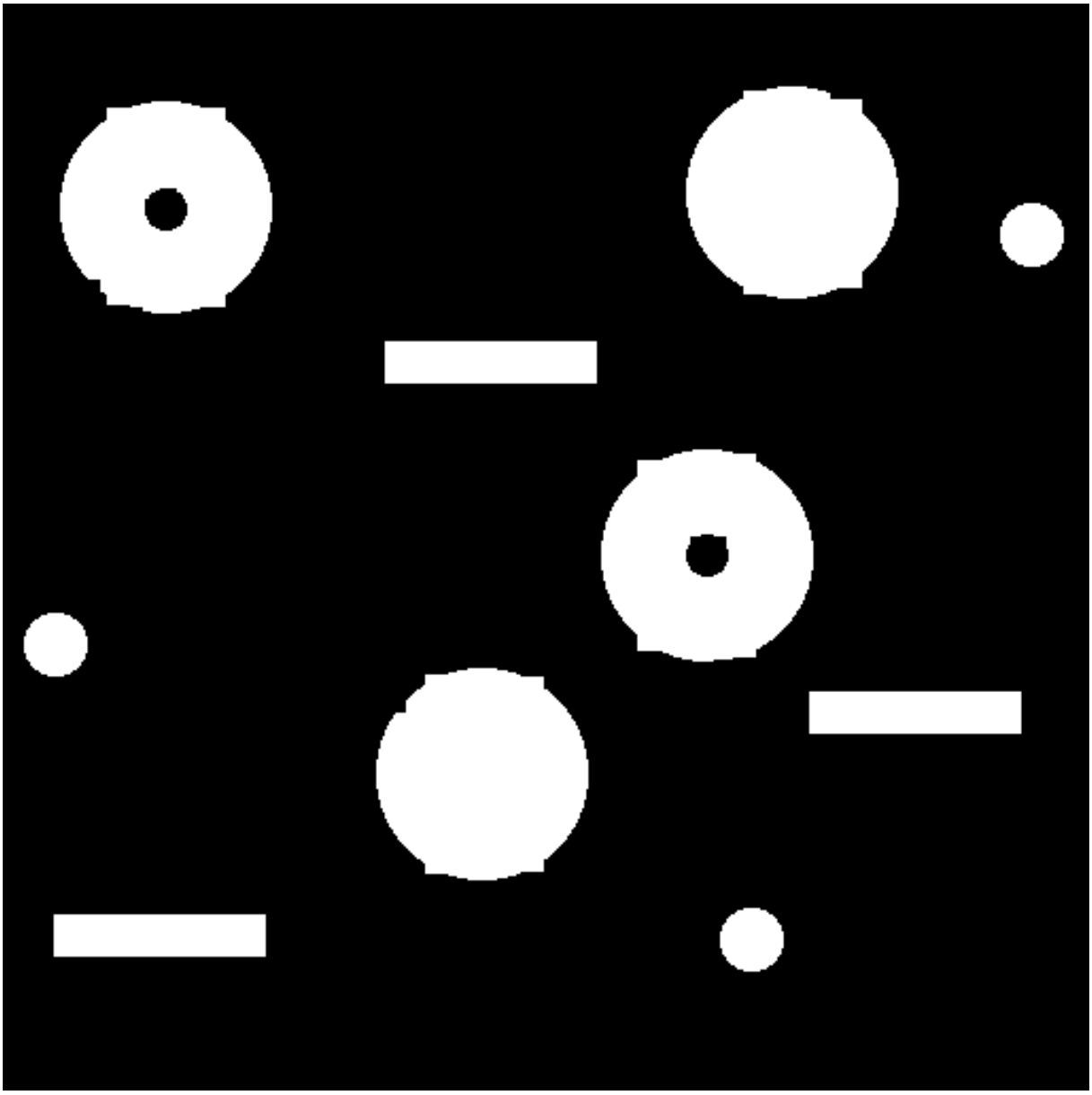
8) Image1b_rotated:



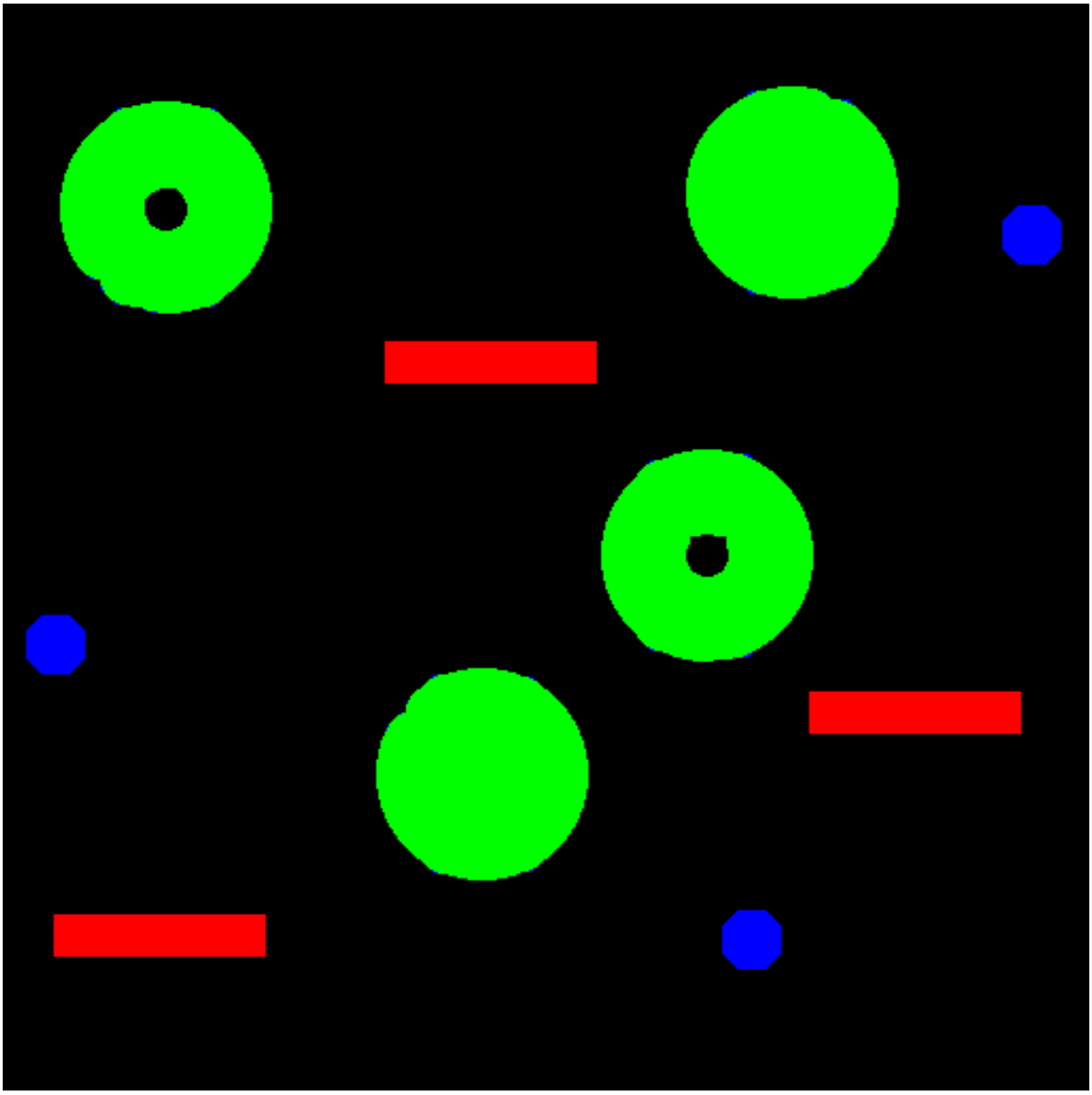
9) Image1c with noise removed:



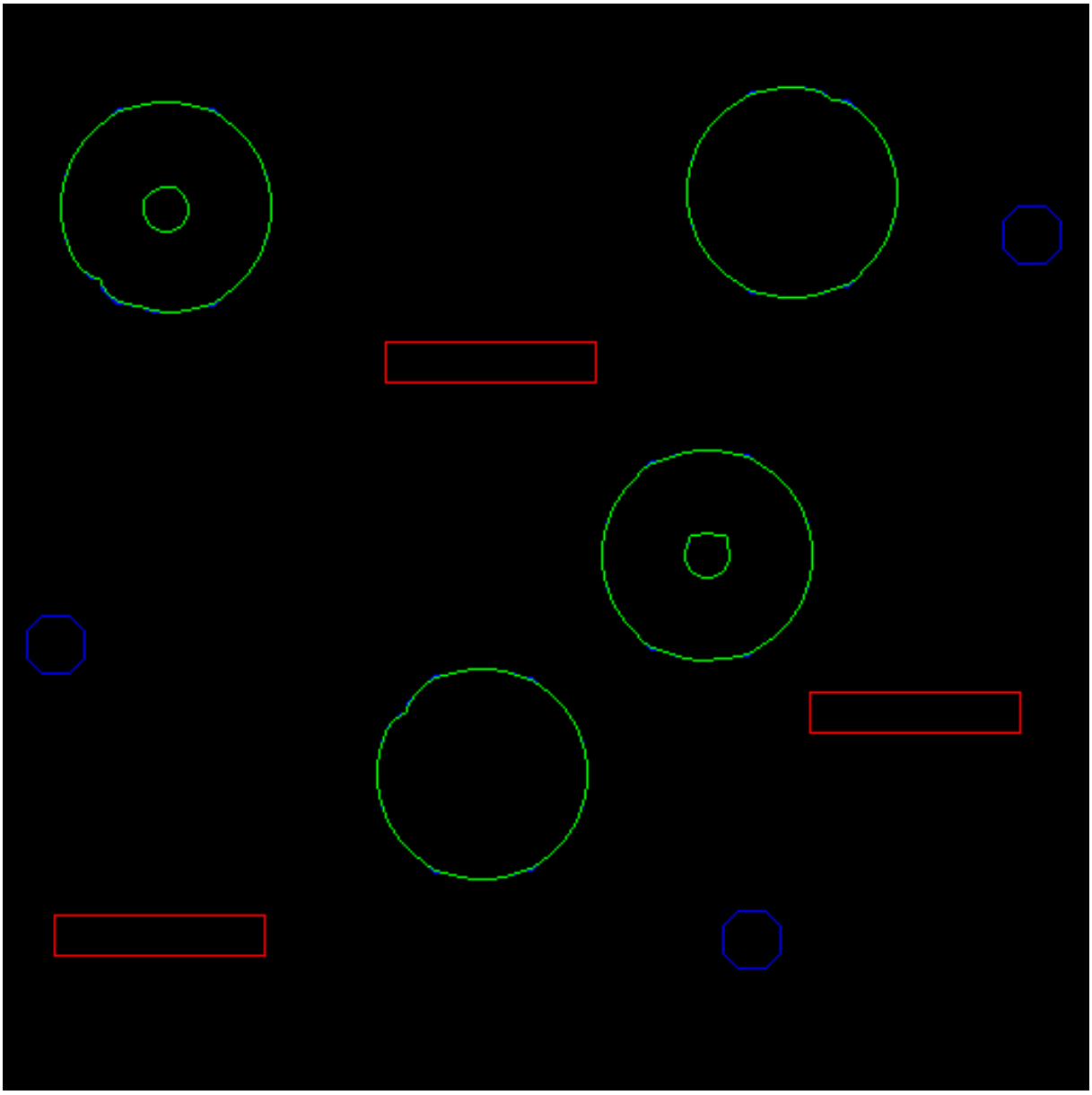
10) Image1c_clean (noise and lines removed):



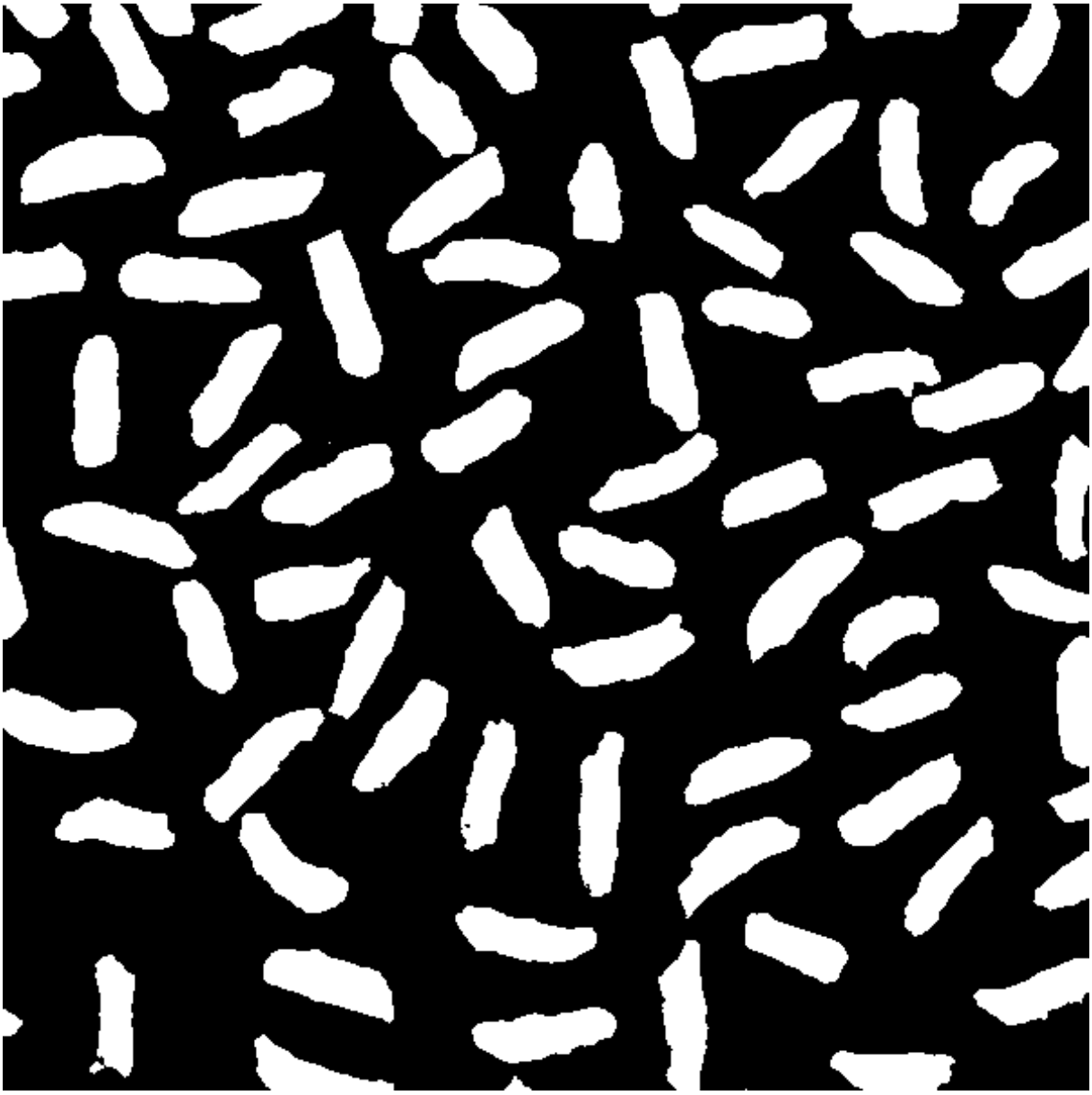
11) RGB-image displaying the 3 different classes of objects in different colors:



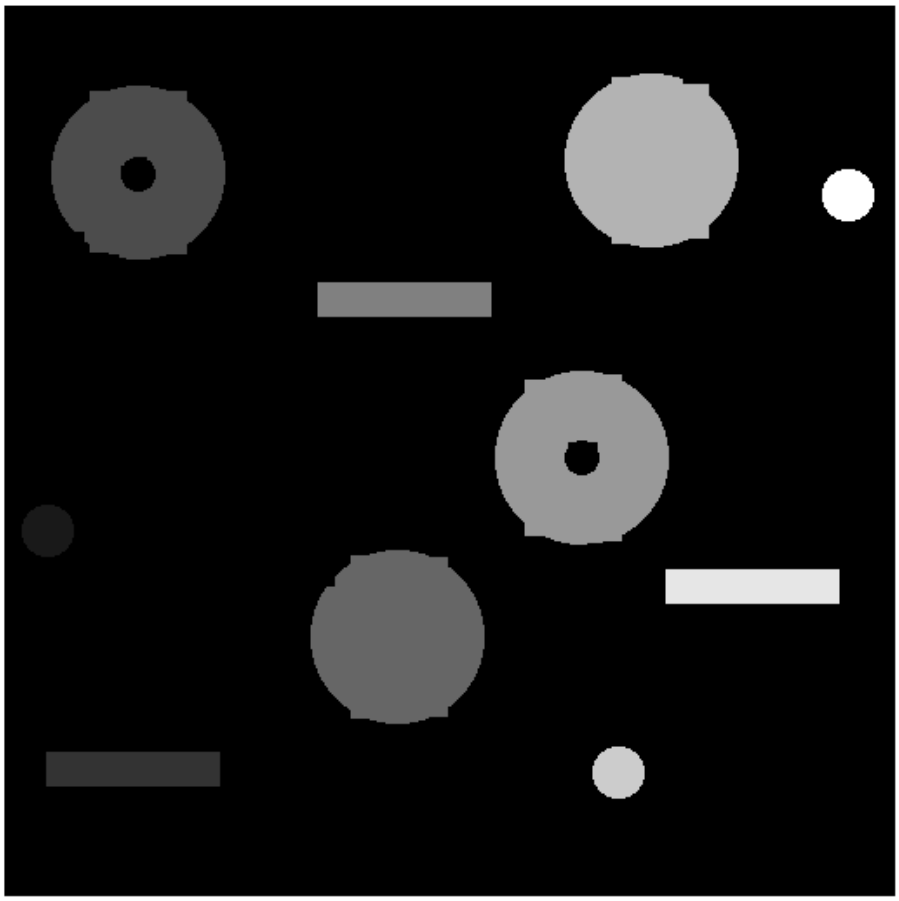
12) RGB-image displaying *the boundaries* of the 3 different classes of objects in different colors:



13) Your structuring element: SE = strel('disk', 70) *Can't see difference if I use 30 - 80*
Segmented image with all the grains of rice:

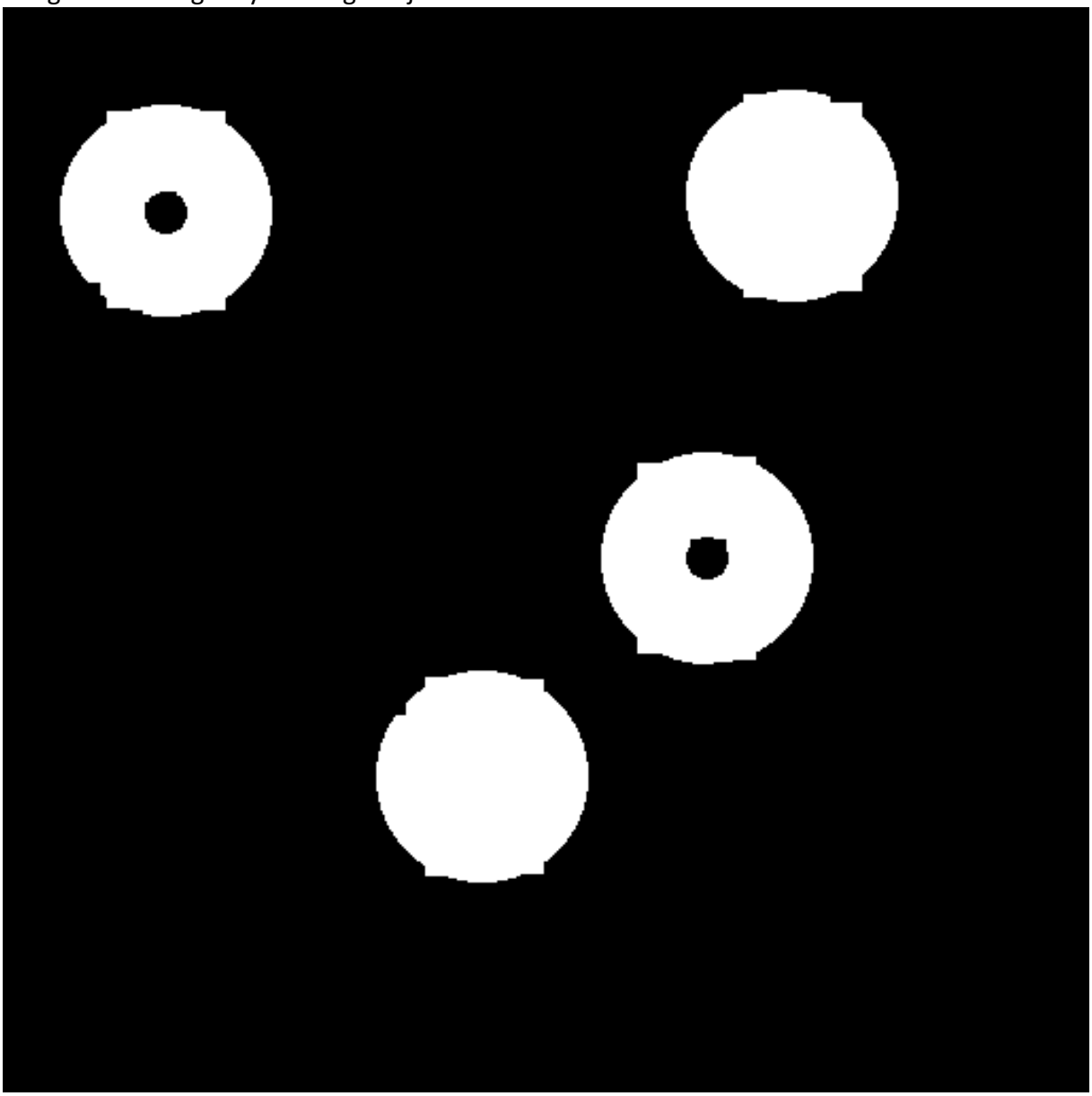


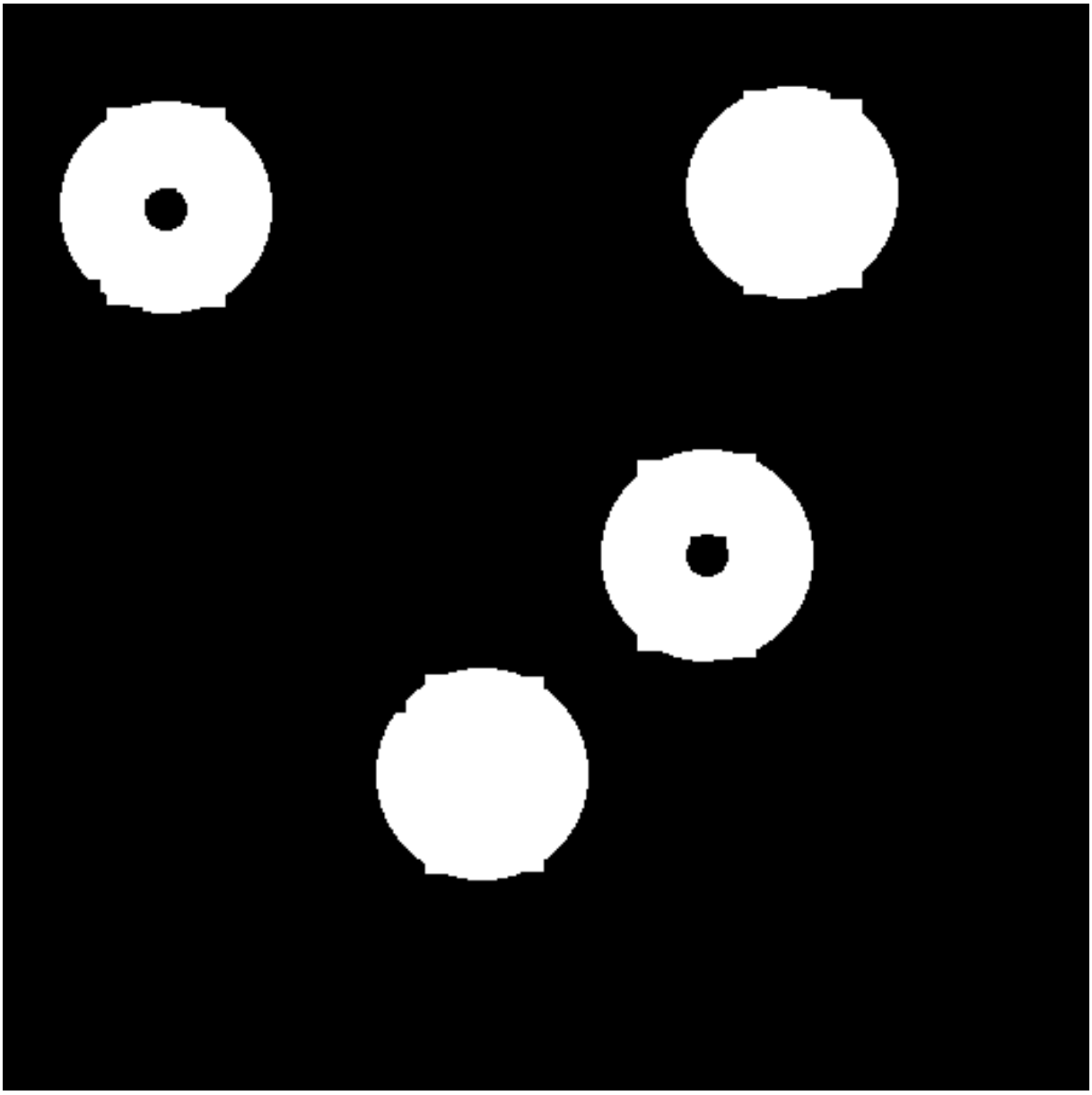
14) Labeled image, L, scaled by max value:



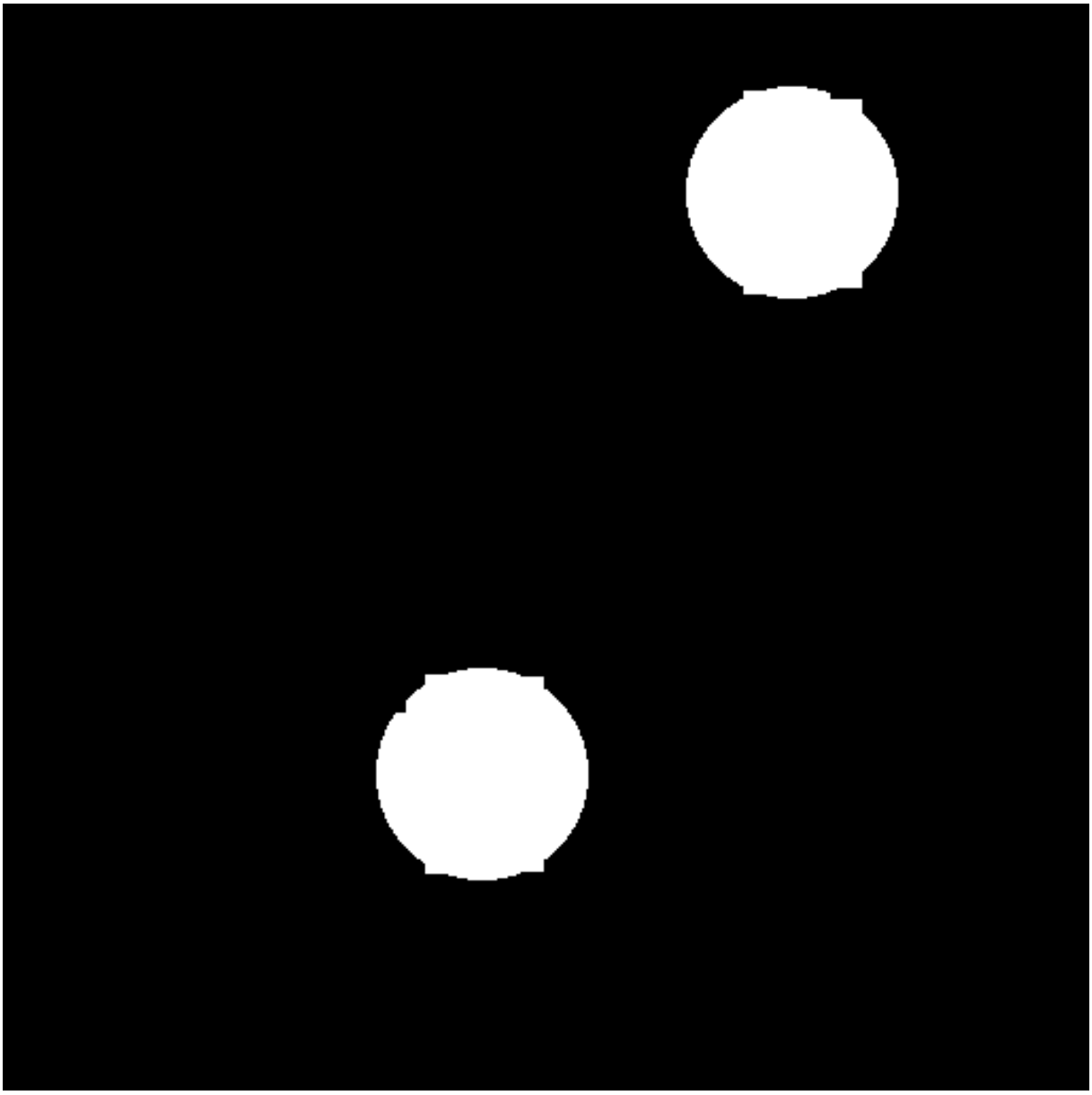
15) What are the perimeters for the large objects (having area > 3000 pixels)?
Some of the larger objects disappear around area > 7620. All objects disappear at area > 7930.

Image containing only the large objects:





16) What is your selected threshold value? *Threshold = 250*
What are the labels of the objects belonging to the class with the smallest perimeter?
Labels 1, 8 and 10
17) What are the labels of the objects belonging to the class with the largest perimeter, and that has no holes? *Labels 4 and 7*
Image containing only objects having the largest perimeter, without holes:



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