

Beykoz University

Department of “Computer Engineering”

“Image Processing - 7061MEEOS-CMEo162”

Project 1 - Fall Semester

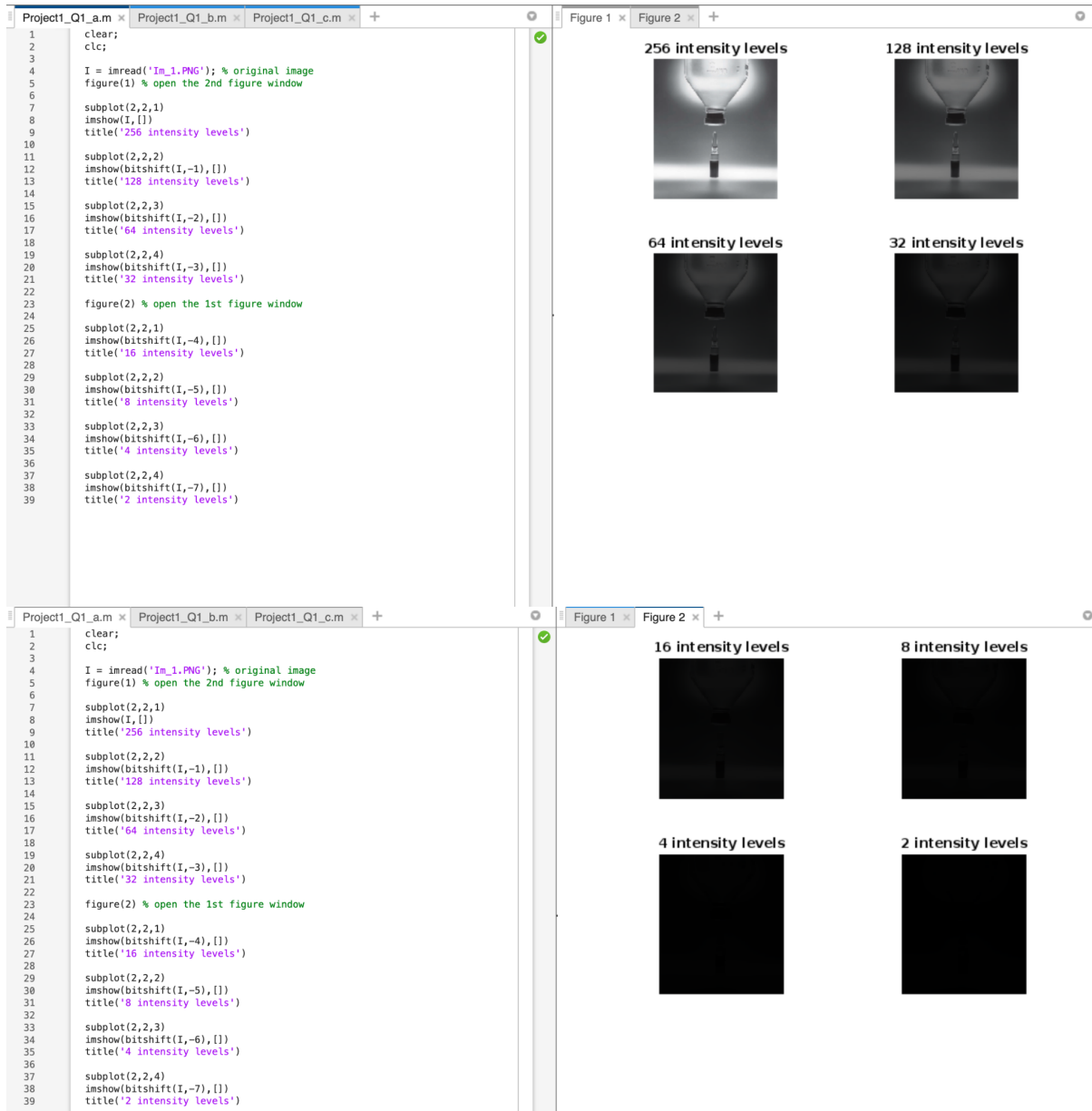
- Final Report -

Lecturer: ENVER AKBACAK

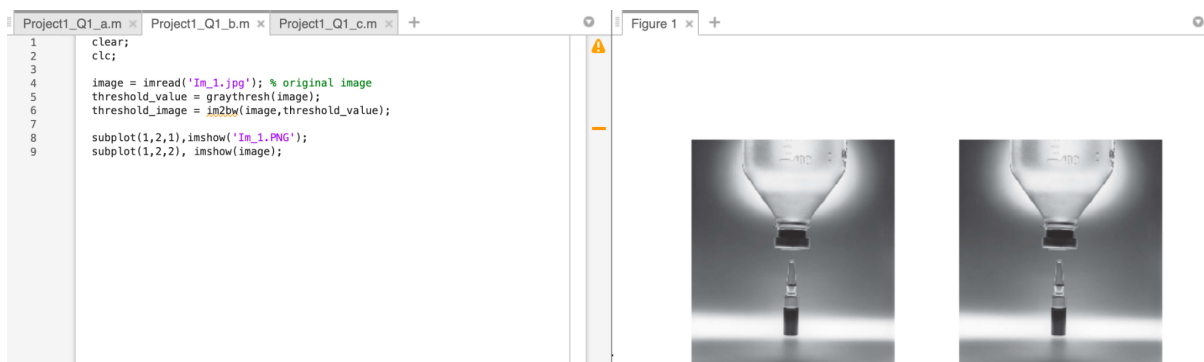
Leyla Abdullayeva - 1904010038

Question 1.

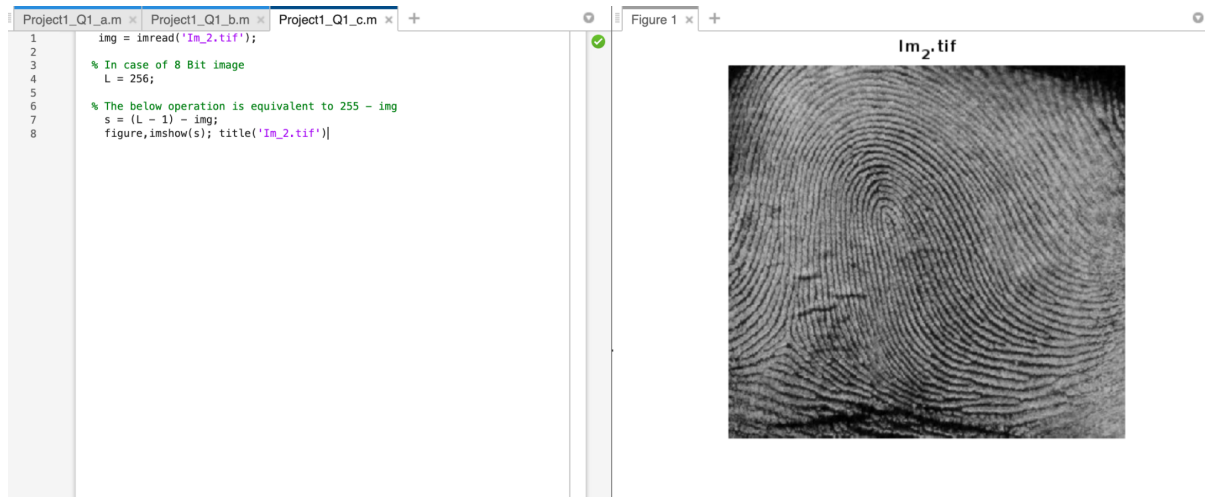
- a) Reduce the number of intensity levels in an image from 256 to 2, in integer powers of 2. Apply your program to Figure “Im_1”.



- b) Use at least four thresholding values in the interval $[0, L-1]$, and produce the corresponding binary images.

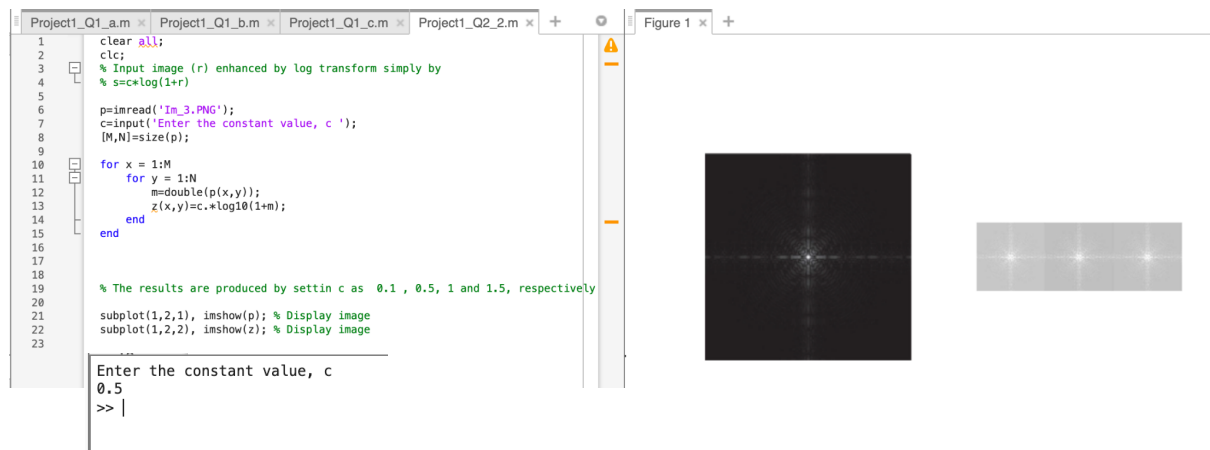


c) Reversing the intensity levels of Figure “Im_2” to produce the equivalent of a photographic negative.



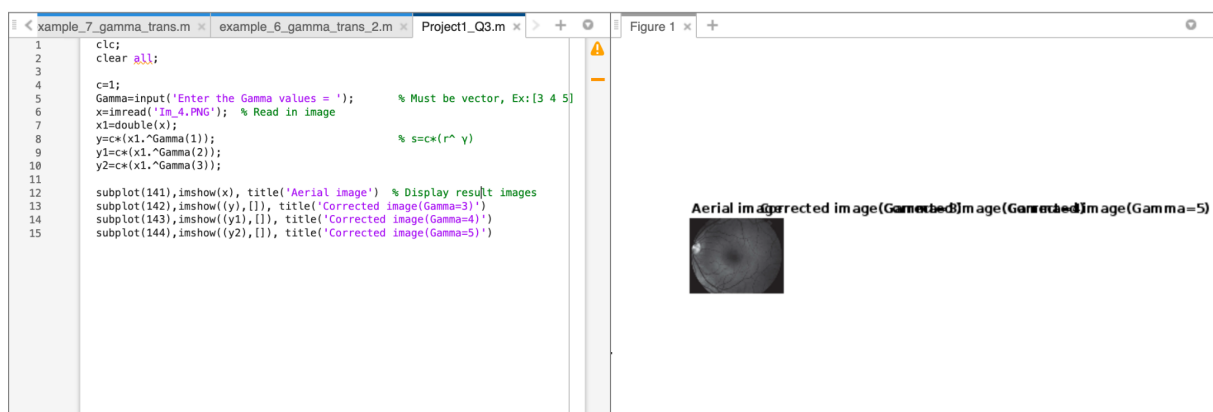
Question 2

Enhance Figure “Im_3” using the log transformation ($s=c\log(1+r)$). Obtain the best visual enhancement according to your judgment.



Question 3

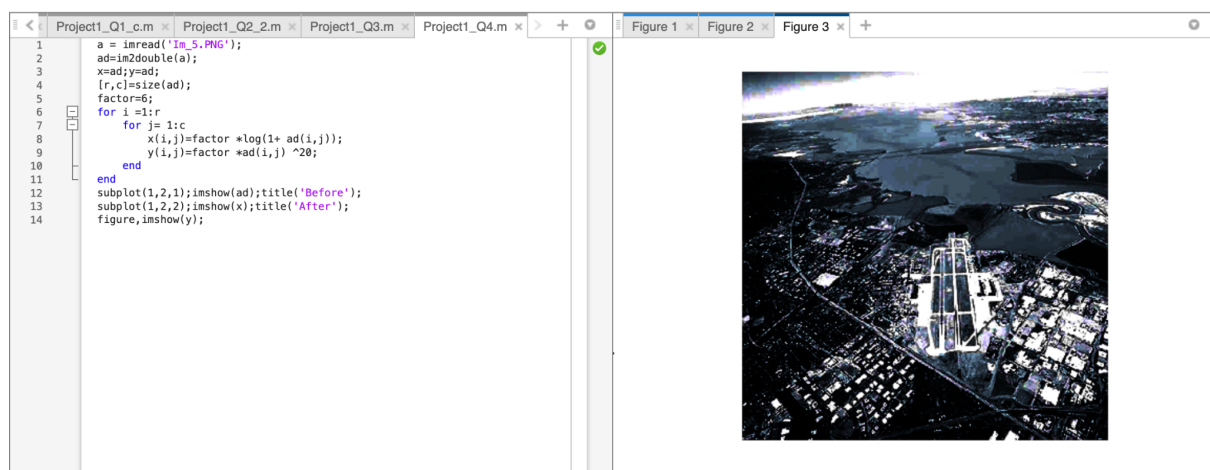
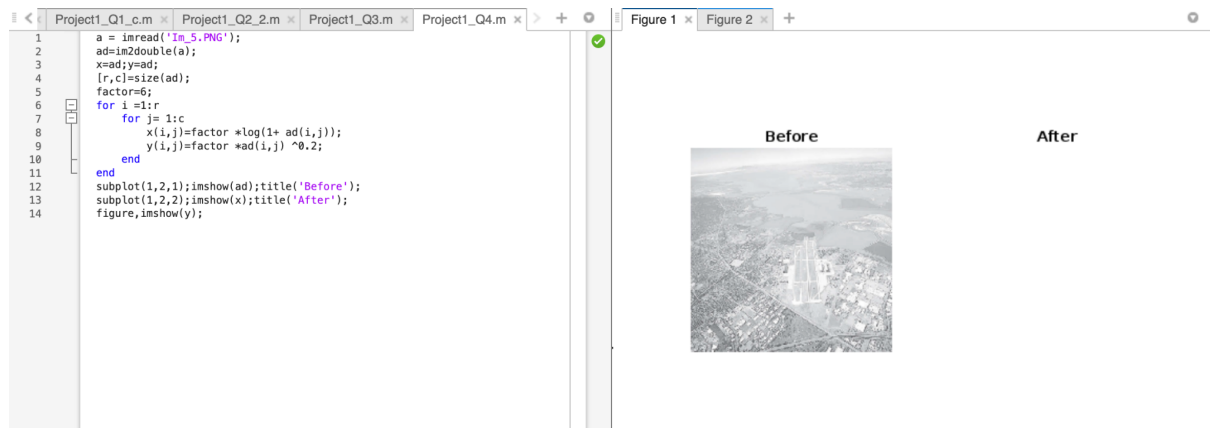
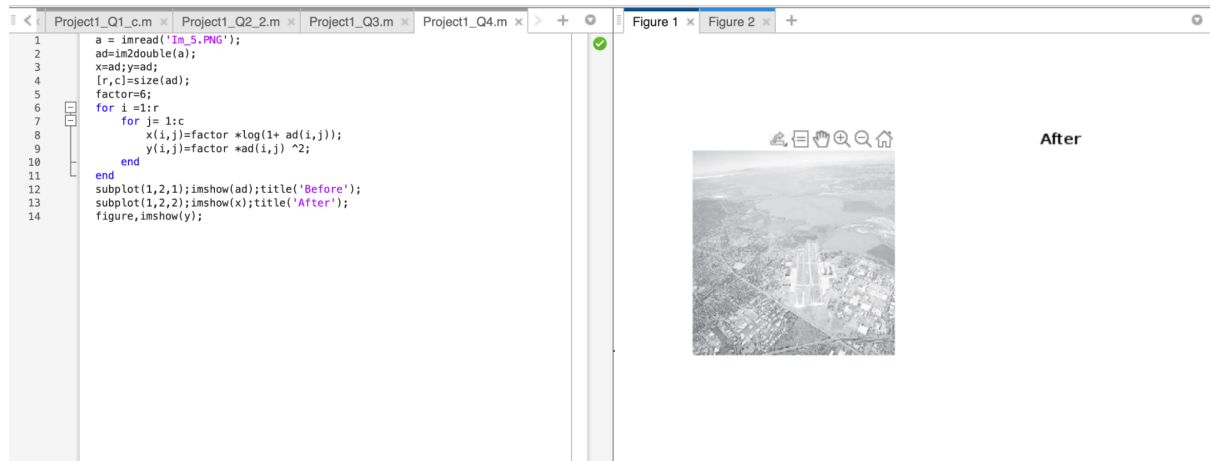
Enhance Figure “Im_4” using the power-law transformation ($s=cr^\gamma$). Obtain the best visual enhancement according to your judgment.



Question 4

Enhance Figure “Im_5” using both the log and the power-law transformation. Obtain the best visual enhancement according to your judgment. Explain the reasons for the differences between the output of the two methods.

Output:



Question 5

The contribution to the total image appearance by specific bits can be highlighted.

Decompose Figure “Im_2” into its bit planes. Then reconstruct the same image by using its upper three planes.

Output:

