Name : Mohit Kumar   M.Tech AI Course Program (1st Semester)
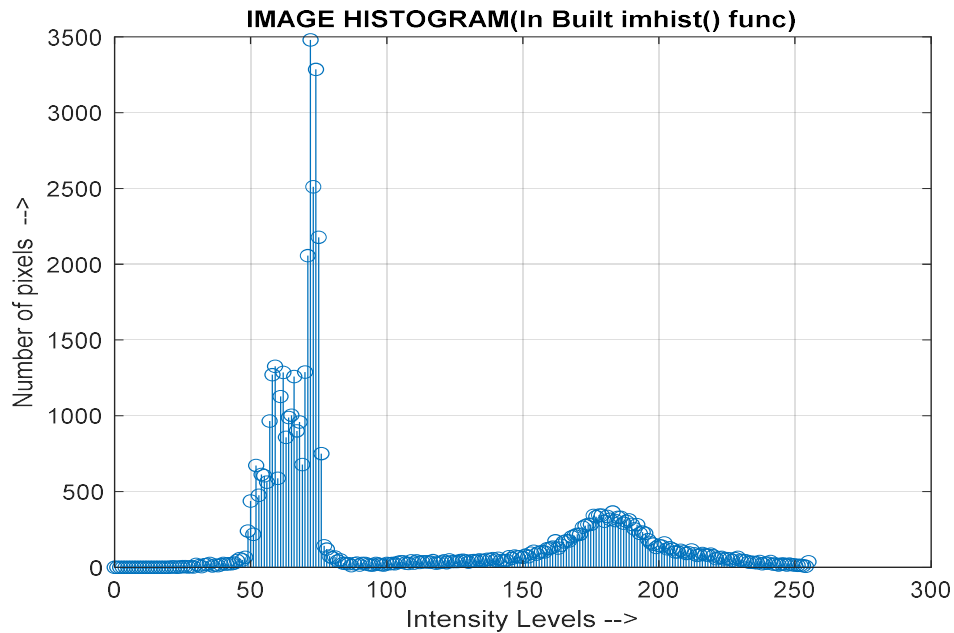
S.R No. : 04-01-03-10-51-21-1-19825

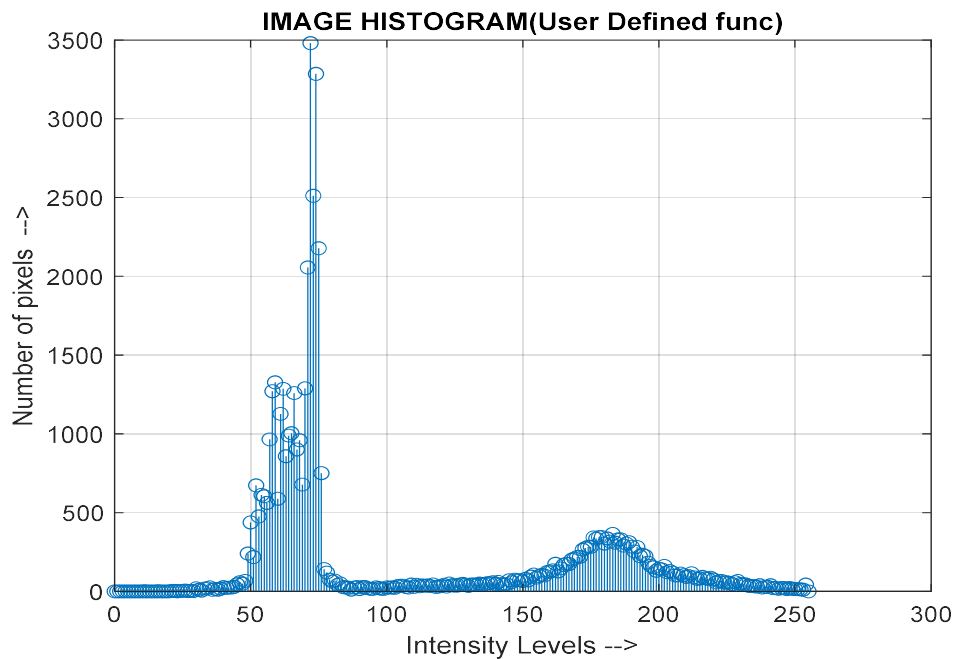**Assignment #01 - Digital Image Processing**   Date – August 25, 2021

Question #01

i.   Output of the histogram of Coins.png image using inbuilt imhist() function of MATLAB.

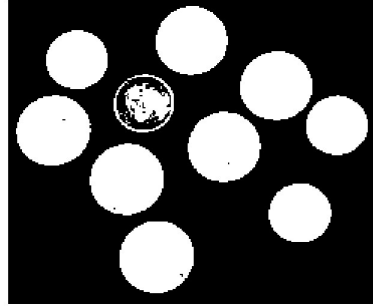ii.   Output of the histogram of Coins.png image using function defined by me.

Question #02

    i.   Binarization using Otsu Binarization using inbuilt graythresh() function of MATLAB.
             Threshold Value : 125
    ii.   Binarization when minimizing the intra class variance
             Threshold Value : 125
             Execution Time : 0.0062524s
    iii.   Binarization when maximizing the inter class variance
             Threshold Value : 125
             Execution Time : 0.0053296s

We see that the threshold values obtained using the inbuilt graythresh() function is the same as the threshold values obtained when we minimise the intra class variance or maximise the inter class variance.

This verifies that maximising the inter class variance or minimising the intra class variance results in the same threshold value and both procedures are equivalent.

Binarised Image

Question # 03

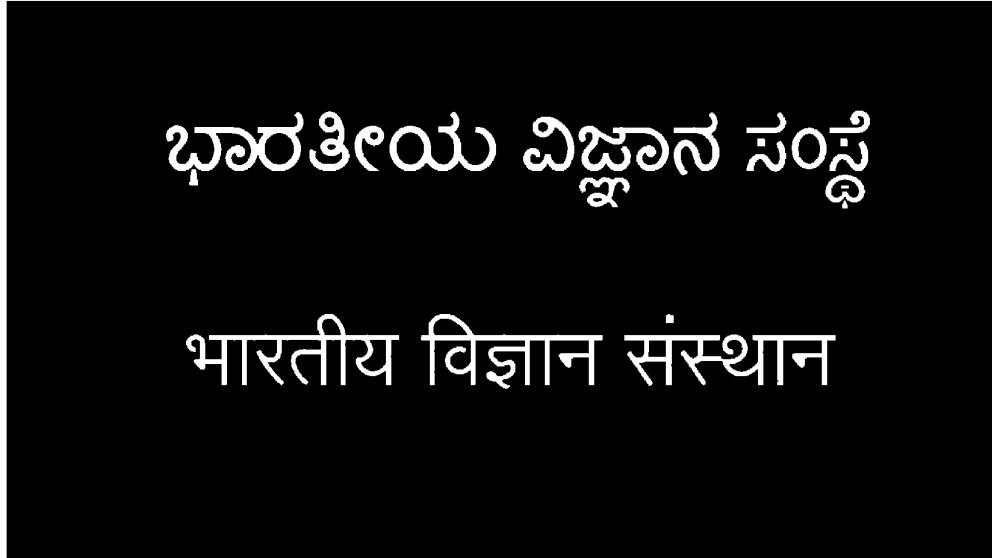Red colour text superimposed on a green background image.

Question # 04

The total number of digits in the PiNumbers.png image was found to be 44.

Did not implement counting no of ones in the image.

Question #05

The cleaned image using binary morphological operations is as follows

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Question #06

Code implemented but not functioning properly.