Assignment_02

Uploaded on 11th January 2025 **Submission: Before 18th January 2025**

1. Use different thresholding algorithms on the following image to generate and save the binary image after thresholding.

2. Draw a fence of an arbitrary shape by hand (!) on a clean paper with white background and printed lines on it as explained in the class. Take a photo of this image. Write a program
   a) to read the photographed image and translate it to a gray scale image of size say, 300 x 300 of this image.

   b) Use global thresholding algorithm to clean image to remove all lines on it.

   c) Save original and binary image by name fence_original.jpg and fence_threshold.jpg.

   d) Write a program to draw a filled circle of radius 5 randomly in this image (fence_threshold.jpg). Generate 50 such images. Store these images into two folders as explained in the class.

3. Write a histogram equalization code to improve the contrast of following grayscale image.

   A) Show and save input and output (after histogram equalization) grayscale image.
   B) Show and save intensity histogram of input and output image.
   C) Show and save differential probability histogram of input and output image.
   D) Superimpose the cumulative probability histogram on C); the differential probability histogram of input and output image
   E) Obtain and store the mean intensity of input and output image