Assignment 02 (Even ID)

1. **Histogram Equalization:**
   a. Read the image 'cameraman.png'
   b. Compute no. of pixels for each gray level intensity (to generate histogram)
   c. Compute Probability Distribution Function (PDF) = no. of pixels for each level / total no of pixels
   d. Compute Cumulative Distribution Function (CDF) = Cumulative sum of PDF
   e. Multiply each CDF by L-1
   f. Round the value obtained in step e
   g. Display original image and Equalized image using subplot
   h. Display original histogram and equalized histogram using subplot
   i. **Bonus:** Perform Histogram Specification of the input image with your desired image (you can choose any of your image for performing the specification).

2. **Contrast Stretching:**

a.	Read the image. Say, input image is I	
b.	Find the minimum pixel value of the input image. Store the value in a variable, say A.	1
c.	Find the maximum pixel value of the input image. Store the value in a variable, say B.	1
d.	Store the difference of variable B and A in a variable D. Store the highest possible intensity value in a variable M. (If your input image is 4 bit, highest possible intensity value = 2^4 – 1 = 15)	1
e.	Say your output image is R. Use the following equation for **each pixel** of the input image I - $$R = \frac{I-A}{D} * M + A$$	3
f.	Display the input image I and output image R.	1
g.	Show the histogram of the input image I and output image R. Do not use any built-in function.	3