Exercises on Contrast Enhancement

1. Study the following requirements and explain clearly what you do to fulfil these requirements. Use sketch if possible.

   a. Stretch the contrast of low grey level pixels linearly (0:50 to be 10:100) and leave the remaining grey level (51-255) without change

   if(< 50) y = 9/5 x + 10 else
   y = x

   b. Segment the image into five regions with new grey levels 50, 100, 150, 200, 255. The segmentation is based on the range of the image grey level such that none of the region has grey level more than the new grey level.

   c. A blue light was used during image acquisition that makes the image looks more bluish. Eliminate the effect of this extra blue in the image.

2. Apply Histogram equalization to the following data. Draw the equalized histogram. Assume 100 pixels per image and 8 grey level.

Intensity	0	1	2	3	4	5	6	7
Number of pixels	10	20	22	28	0	10	0	10

final table =
0 10 20 0 22 0 38 10

steps:
1. build the table (given here)
2. build probabilty table
3. build CDF table
4. evaluate the equation
newPos = (G-1)(CDF[i])
where G = maximum intensity