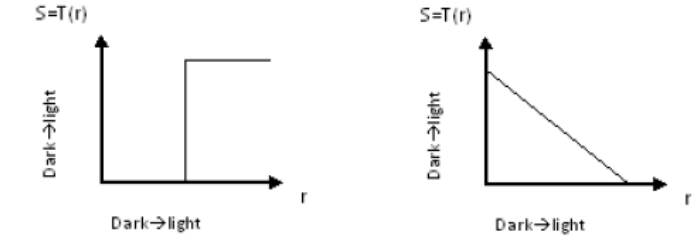
CSC2143 - Revision Tutorial

1. Briefly explain the importance of image enhancement techniques with suitable examples.
2. Identify the grayscale transformations shown below.



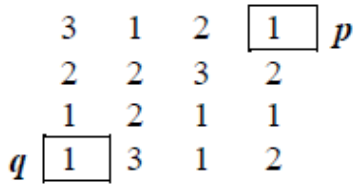
3. Briefly explain the terms spatial resolution and graylevel resolution in relation to image sampling and quantization.
4. How do you identify a well contrasted image by its histogram?
5. What is meant by histogram equalization?
6. The following chart shows the gray level intensity distribution of a 4-bit image. Plot the initial histogram, histogram equalization and the transformation function.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	40	80	45	90	70	0	0	20	0	0	0	0	15	0	0

7. When a representative set of images are examined, following problems were found:
   a) Edges are of no interest:
   b) Corrupted by White and black (salt and pepper) noise:
   c) Blurred/lack of sharpness:
8. Give one application for the following morphological operations.
   a) Erosion :
   b) Dilation :
   c) Closing :
   d) Hit or Miss :
9.
   a) Give an instance where you find interpolation in image processing.
   b) Compare the effects of Nearest Neighbor (NN) interpolation and Bilinear interpolation.

nusrath@dcs.ruh.ac.lk

10. Let V={1,2}. Find the shortest 4-, 8-, m-path between p and q. If a particular path does not exist between these points, explain why.



nusrath@dcs.ruh.ac.lk