

**ELL-715**  
**ASSIGNMENT 2**

1. Take an 8-bit gray scale image and perform the following operations using MATLAB,
  - (a) -ve of the image, log of the image
  - (b) Gamma correction for gamma=0.4, 2.5, 10, 25 and 100
  - (c) Bit-plane slicing (show all the 8-plane images)
  - (d) Plot the histogram of original image and then, (1) brighten, (2) reduce contrast, and (3) darken the image. Also, plot new histogram for each case.
  - (e) Apply Histogram equalization and plot the resulted image
  - (f) Apply such a transformation that highlights range [120,200] but preserves all other levels.
  
2. Take an 8-bit gray scale image and perform the following operations using MATLAB to estimate the edges using
  - a. Laplacian filter with and without diagonal terms
  - b. Roberts cross gradient operator
  - c. Sobel gradient operator
  - d. High-boost filtering
  
3. Extract two consecutive frames from a video clip, detect the changes in these over time (take snapshots).
  
4. Implement the attached paper on this or similar application.