

## **Project #1 Histogram Equalization**

**Due Tuesday September 14<sup>th</sup>.**

- (a) Write a computer program for computing the histogram of an image.
- (b) Implement the histogram equalization technique discussed in Section 3.3.1.
- (c) [Download](#) Fig. 3.8(a) and perform histogram equalization on it. As a minimum, your report should include the original image, a plot of its histogram, a plot of the histogram-equalization transformation function, the enhanced image, and a plot of its histogram. Use this information to explain why the resulting image was enhanced as it was.

## Project #1

### **Suggested Format for Submitting Project Reports**

**Page 1.** *Cover Page.* Typed or printed neatly.

- \* Project title
- \* Project number
- \* Course number
- \* Student's name
- \* Date due
- \* Date handed in
- \* Abstract (not to exceed 1/2 page)

**Page 2.** *Technical discussion.* One to two pages (max). This section should include the techniques used and the principal equations (if any) implemented.

**Page 3** (or 4). *Discussion of results.* One to two pages (max). A discussion of results should include major findings in terms of the project objectives, and make clear reference to any images generated.

**Results.** Includes all the images generated in the project. Number images individually so they can be referenced in the preceding discussions.

**Appendix.** *Program listings.* Includes listings of all programs written by the student. Standard routines and other material obtained from other sources should be acknowledged by name, but their listings should not be included.

**Layout.** The entire report must be in standard sheet size format (8.5 x 11 inches) All sheets should be stapled. Alternatively, you may electronically submit the entire project as a folder. Your report can include .doc or .pdf report files, any appropriate image files. Your M files should be included.

**A note on program implementation:** You may write your program in any language you wish; however, I encourage you to use MATLAB and the Image Processing Toolbox since it will make the assignments easier. The best programs will be demonstrated in class.