ELEC 539 Digital Image Processing
Assignment 2

Due: Wednesday 24 February 1999

1. We will not discuss image perception explicitly in class, but much of our later work will require an understanding of at least the very basics. Therefore, read Jain Chapter 3, Pratt Chapter 2, and Lim Chapter 7 and prepare a brief (1 or 2 page) summary of what you learned.

2. Problem 1.23 from Dudgeon and Mersereau.

3. Problem 10.7 from Lim.

4. **Image Quantization in Matlab.**

   Write a Matlab image quantizer. Quantize the `lenna.256` image (or a suitably complex image of your choice) to 4, 3, 2, and 1 bits assuming that it is uniformly distributed. Note that it is not necessary to read-in tables or do anything fancy to perform the quantization (Think!). Turn in interpretive comments and one representative plot.

5. With your study group, discuss and synthesize the major *themes* of this week of lectures. Turn in a one page summary of your discussion. You need turn in only one summary, but include the names of all group members. Please do not write up just a "table of contents."