Oct 1, 2008

ECE 178 HW #1
Due: Wednesday, Oct 8, 2008

1. Problems 2.1 – 2.10 in the text. Note: While the book's website provides solutions for some of the problems, you are expected to go through them carefully and submit *your* answers without cut & pasting the ones from the website.
2. This is a MATLAB programming question. You need to familiarize yourself with the MATLAB environment first. It is strongly encouraged that you go through one of the many online MATLAB tutorials (see, for example, the book's web site). Write an M-function with the following specifications:

```
function H = imcircle(R, M, N)
%IMCIRCLE Generates a circle inside a rectangle.
%   H = IMCIRCLE(R, M, N) generates a circle of radius R centered
%   on a rectangle of height M and width N. H is a binary image with
%   the interior of the circle filled with a gray scale value = 125. R must be an integer >= 1.
```

Your program must check the validity of R and also it should check to make sure that the specified circle fits in the given rectangle dimensions. Use of `for` or `while` loops is not permitted. *Hint:* Review function `meshgrid` and become familiar with function `floor.` See also the commands for drawing a square within an image.