Lab Exercises  
March 16-17

The attached program is a highly simplified version of your current assignment. Instead of loading an existing image and modifying it by changing the individual pixel values, it produces a synthetic image; in this case a grayscale image that fades changes gradually from black to white as you move from the left hand edge to the right-hand edge. In this case, the effect is accomplished by setting the pixel in row i and column j (where i and j are both between 0 and 511) to the color (red=j/2,green=j/2,blue=j/2). Thus in column 0, the color is (0,0,0) (black) and in the rightmost column 511, the color is (255,255,255), white.

Revise the create_image function to create additional effects of this kind. Examples, with hints about how to produce them, are below. Note that you do not need to change any other part of the program.
(a) Ten shades of gray: Instead of all 256 shades, divide the column number by 50 and then multiply by 25, so that the first fifty columns are all colored black, the next are all colored (25,25,25), etc. (I really did try to do 50 shades of gray, but that does not look a whole lot different from the original.)

(b) Ten shades of green. (You can also try yellow.)
(c) Increase the red content from left to right and the blue content from top to bottom.
(d) Paint every pixel a random color.
(e) Make the brightness of each pixel proportional to the distance from the center. I like the effect better if you make the brightness proportional to the square of the distance from the center. This is illustrated below.