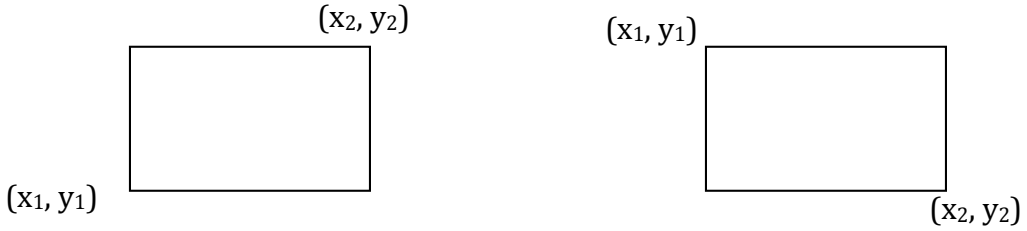
CSCI 4250/5250
Homework 3 (Due: beginning of class, Monday, September 17th)

1. Mouse event callback
    a. Write a mouse function to receive two points defining a rectangle (the opposite diagonals of the rectangle) and to display the rectangle in the color cyan. Any variables that are needed should be defined. Your program should handle either situation below:



    b. Show code that should be added to an OpenGL program to register the function in (a) as the mouse callback.

2. Assume the world window coordinates go from -1 to 1 in x and -2 to 2 in y. The viewport goes from 100 to 200 in x and 200 to 400 in y. Find the window to viewport mapping equations and apply them to the world point (-.5, 1.5) to determine its corresponding position in the viewport.

3. Show OpenGL statements that would be used to set up the mapping from problem #2 above. If any matrices are involved, be sure to show code to modify the matrix too. The code should also plot the point (-.5, 1.5) after the transformation has been set.

4. Suppose we have a function drawMotif() that will draw a motif in the current viewport. Show code that might be in a display function to tile the motif exactly 64 times (8 rows and 8 columns or motifs).

5. Show code for the function drawMotif() such that the motifs are to be drawn upside down every other time.