Design for Assignment 5

Understanding the problem: The problem is to find the greatest product of any four numbers in a two dimensional array. The four integers could be in any of the following shapes, a line vertically, a line horizontally, a line diagonally, and a square.

Devising a plan: What I want to do is create a function called find_greatest_sum(). Then this function will have a list of functions inside of it pertaining to all of the shapes in which I need to find a greatest product. As I call each of the different shaped functions, I will store that max product. Then, compare the max product of each shape to determine which shape had the largest product. Depending on which shape was the biggest, I will output the location in that shape along with the array to demonstrate where the greatest product took place.

Test plan/looking back: So looking back there could have been some optimizations with declaring various variables throughout the program. The time constraint for this assignment only permitted a working solution, so if I had more time I could go back and optimize the code. As far as my test cases, all of them worked nicely. I stated on a white board the number of elements in the array and gave it an assortment from 1 – 50 and then iterated through the different shape functions. All test cases were successful, so I then implemented them in code.