CIS 410/510: Project #5
Due Thursday, Feb 6th, 2020
(which means submitted by 6am on Feb 7th, 2020)
Worth 6 points

Assignment:
1) Download skeleton file proj5.cxx and data file proj5.vtk and put them in a new directory.
2) Re-use your CMakeLists.txt from the last project.
3) Run cmake, compile the program and run the program. It will put up a window that has line segments around the box X=-10 → +10, Y=-10 → +10. These line segments were made by calling the method AddSegment on the class SegmentList. You will add additional segments for your isosurface.
4) Implement an isosurface algorithm for the 2D quads in proj5.vtk. The isovalue should be 3.2.
5) Upload your source code and a screenshot of your program working to Canvas. Make sure to cross-reference with the correct image posted on the website.

Here are the conventions you should use:
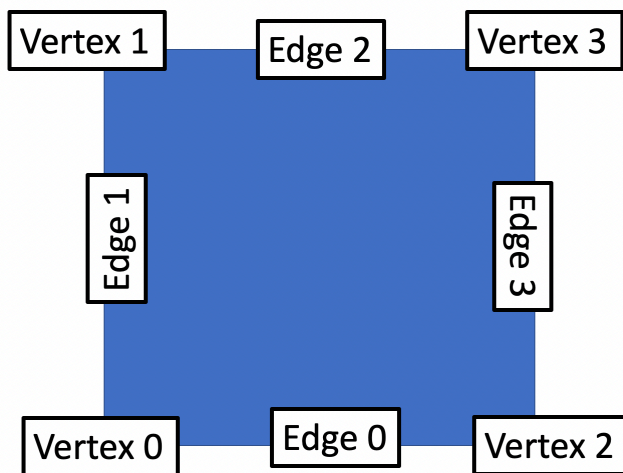
Example: if isoval is 3.2 and F(V0) == F(V1) = 3 and F(V2) == F(V3) == 4, then the case number in binary is 1 1 0 0 and in decimal is 12. Further, case 12 should have two edges: 0 and 2, i.e.,
        lup[12][0] = 0; lup[12][1] = 2; lup[12][2] = -1; lup[12][3] = -1;

Please use exactly the convention above and do not innovate your own convention.