CIS 441/541: Project #1C
Due October 12th, 2016 (meaning 6am October 13th)
Worth 3% of your grade (NOTE: this is a crazy small amount, given that this is the hardest project for most students. I'm just going to go with it.)

Instructions

1) Download get_triangles.cxx. It has a routine to read triangles from a file. Incorporate its GetTriangles routine in the place of GetTriangles from project 1B.
2) Download the geometry file "proj1c_geometry.vtk".
3) Implement the scanline algorithm for arbitrary triangles and fill up the image buffer with their colors.
4) Note that the output image is 1786x1344. You should change the image size and initialize the buffer to be black (0,0,0). This was done for you in project1b.cxx, so just make sure that code didn't go anywhere.
5) The correct image is posted to the website.

Note that:
- a file is available online that is helpful for debugging. For each pixel, it says which triangle deposited a color onto that pixel. When differencer tells you a pixel is wrong, you can use this file to narrow down debugging to the exact triangle.

When you are done, submit the following to Canvas:
- your code
- a screen shot of the differencer program congratulating you
- if there are differences, send me the differenceMap.png that differencer produces and image output of the program. Programs with differences will be graded harshly … I prefer a correct picture late over an incorrect picture on time.

Don't forget to use double precision and the floor441 and ceil441 functions.