

ME171
Computer-Aided Engineering Design
Spring Term, 2001

Homework #3

Due: April 24, 2001

Using the program that you wrote for the Homework #2 as a skeleton, write a program, preferably in C or C++, to read a vector list (a text data file of x, y, z triplets) one line at a time, and using homogeneous coordinates and homogeneous transforms perform the following transformations: Display the vectors, from an eye position not on one of the coordinate axes, looking at the origin, with the world Y axis up, in perspective. Your program should produce an output file in the same format as the results of Homework #2.

A display of the results can be created with the vtk script `display.vtk`.

The vector list that you should use should be a cube, 2-units on a side, centered at the origin.

You should turn in one page that shows an example output plot of data from your program, and also turn in a print-out of the C or C++ program source itself.

Class Web Page: <http://www.design.caltech.edu/Courses/ME171/>

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