02561 COMPUTER GRAPHICS   **IMM . DTU**

Exercise 02561-07	**Shadows -Viewing Pipeline**

Readings   Angel 5.8-10

Purpose   The purpose of the exercise is to use OpenGL in producing simple shadows using projection matrices and to get a better understanding of the output pipeline.

Part 1   Make an OpenGL program in which a point light source in (0, 10, 0) illuminates a red polygon with vertices (-2.5, 2.5, -2.5); (-2.5, 2.5, 2.5); (2.5, 2.5, 2.5) and (2.5, 2.5, -2.5) and casts shadow on the XwZw-plane. Change the program so it casts shadows on the plane Yw = -4 instead.

Part 2   A point light source in (10, 2, 0) illuminate a cube of size 3 and edges along the positive part of the three world axes. Make an OpenGL program which casts shadows on the plane Xw = -4

Part 3   Change the light source to a directional light source in part 1 and 2. Indicate the direction of the light source.

Part 4   Play with moving the light source in the cases above.

Part 5   Finish exercise 02561-06-2008 and previous exercises - if you have not already done so.