Monday, December 3, 2012

Mathematics for Computer Graphics
Tutorial 10

A. Considering the shape in figure-1,

1. Scale the following shape relative to the P(1,2) by 2 in x-direction and 0.5 in y-direction; then translate it by 2 in x-direction and 3 in y-direction

2. Express the the overall transformation in matrix format.

3. Now do the transformations in the reverse order, i.e. tranlate then scale relative to P(1,2) .

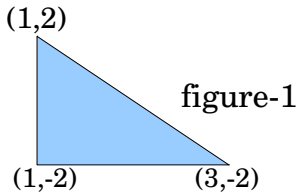

figure-1

You should show the shape in the (x-y)-coordinate system after each transformation.

B. Considering the shape in figure-2,

1. Reflect the shape relative to the vertical line x= 1 then translate it -2 in x-direction and 2 in y-direction.

2. Express each transformation in a matrix format, then derive the the overall transformation in matrix format.

3. Now do the transformations in the reverse order, i.e. translate then reflect .

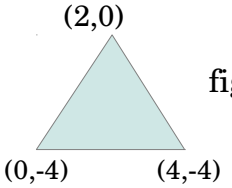

figure-2

You should show the shape in the (x-y)-coordinate system after each transformation.