SSN COLLEGE OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UCS1712 – GRAPHICS AND MULTIMEDIA LAB

EX NO: 6a – 2D Transformations – Composite Transformation

1. Write a program in C++ using OPENGL to perform the following 2-Dimensional composite transformations.
   a) Perform rotation and scaling of an object Input:
   Rotation angle θ, Fixed point (x_f,y_f) and scaling factors s_x and s_y.

   Output: The object should be rotated by the given angle with respect to the fixed point (x_f,y_f) and scaled by the given scaling factors.

   b) Perform reflection and shearing of an object Input:
   The reflecting axis and the shearing factor s.

   Output: The object should be reflected with respect to the given axis and then sheared.

Note:

1. Use homogeneous coordinate matrices.

2. Output should contain before transformation and after transformation objects in different colors.