Computer Graphics - Assignment 3

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1 Introduction

In this assignment you will practice 2D transformations in HTML5 and Javascript. You are given a skeleton program to finish. In this program, the geometry is created in a Javascript Float32Array. Each vertex of the geometry is in homogeneous coordinates, with the w set to 1.

Your program will create each of the 3 basic transformation matrices we covered in class (translation, scale and rotation) from the parameters in the HTML input boxes. Translation is determined by a translation amount in the x axis and a translation amount in the y axis. Scale is determined by a scale amount on the x axis and a scale amount on the y axis. Rotation (counter-clockwise) is determined by an angle theta.

Clicking the transform button will apply the transformations in the following order: rotation, translation and scale.

2 Implementation Details

Your assignment is to finish the skeleton program by writing the empty functions. You may not add extra functions or change any of the definitions, data types, etc. Please work with the given constraints.

3 Due Date

This assignment is due before midnight on Sunday, February 10th

4 Grading Rubric

- Translation works **33%**

- Scale works **33%**

- Rotations works **33%**

5 Bonus

20% bonus: enabling the user to select the order in which the transformations are applied.