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CMSC 405

## Project 2

In this project you will create a unique 3 graphics scene composed of OpenGL graphic components using transformation methods.

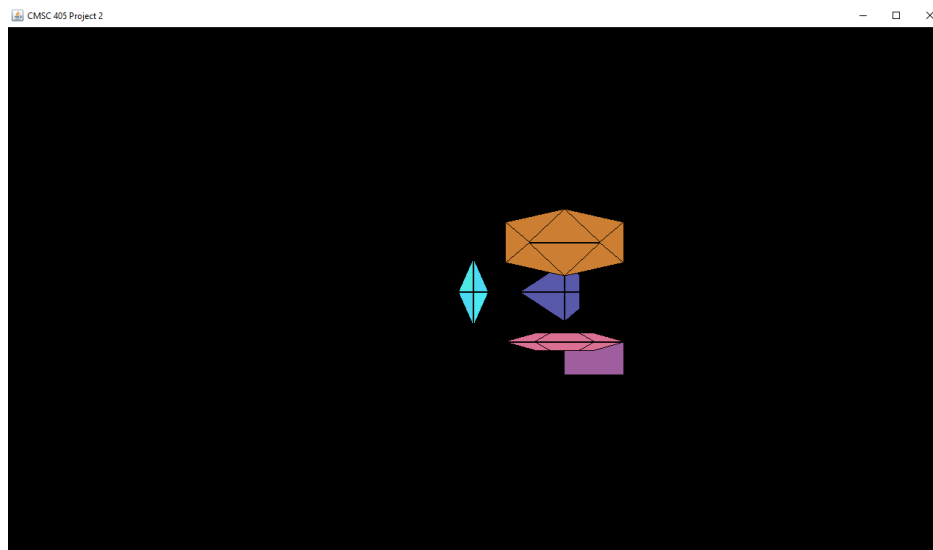
### Test Plan

	Aspect being tested	Input	Expected Output	Actual Output	Pass?
0	GUI	N/A	Six 3D shapes	As expected	Yes
1	Rotate Clockwise	→	Image rotates clockwise	As expected	Yes
2	Rotate Counter-Clockwise	←	Image rotates counter-clockwise	As expected	Yes
3	Rotate Up	↑	Image rotates up	As expected	Yes
4	Rotate Down	↓	Image rotates down	As expected	Yes
5	Shift Left	A	Image shifts left	As expected	Yes
6	Shift Right	D	Image shifts right	As expected	Yes
7	Shift Up	W	Image shifts up	As expected	Yes
8	Shift Down	S	Image shifts down	As expected	Yes
9	Scale image +	+	Image zooms in	As expected	Yes
10	Scale image -	-	Image zooms out	As expected	Yes

The user is able to input the test plan keys which will transform the shapes.


### Test Case 0

This is a control test case to show the program running at its default state. The background is black because the program has not initiated and will turn white as soon as there is an input from user.

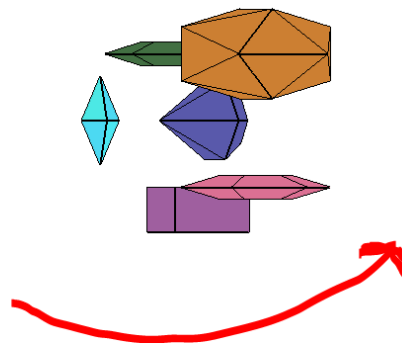


### Test Case 1

By pressing the → key you can rotate all shapes CLOCKWISE.


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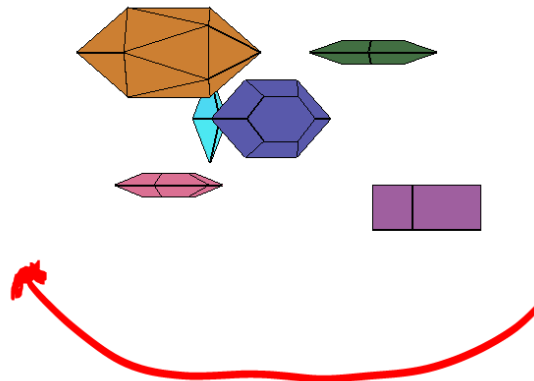


### Test Case 2

By pressing the ← key you can rotate all shapes COUNTER-CLOCKWISE.

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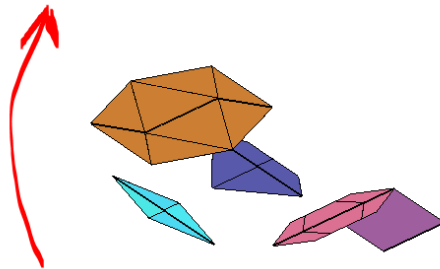


### Test Case 3

By pressing the ↑ key you can rotate the yaw of all shapes UPWARD.

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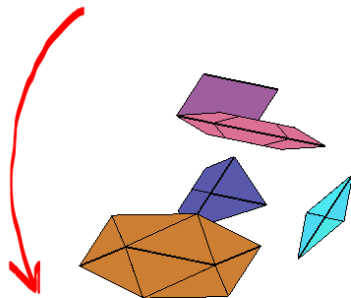


### Test Case 4

By pressing the ↓ key you can rotate the yaw of all shapes DOWNWARD.

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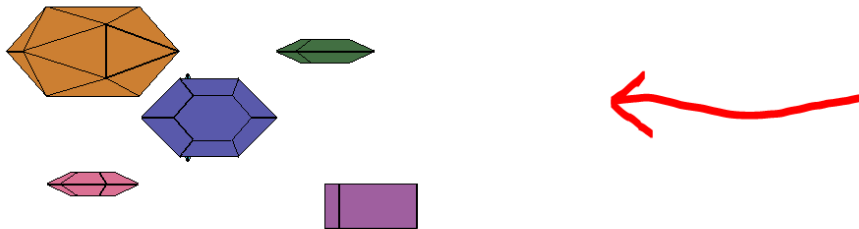


### Test Case 5

By pressing the A key you can shift all images LEFT, it's best when shapes have been rotated a bit to see the full effect.

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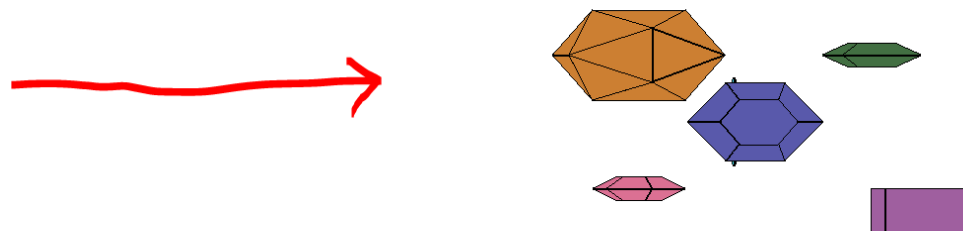


### Test Case 6

By pressing the D key you can shift all images RIGHT, it's best when shapes have been rotated a bit to see the full effect.

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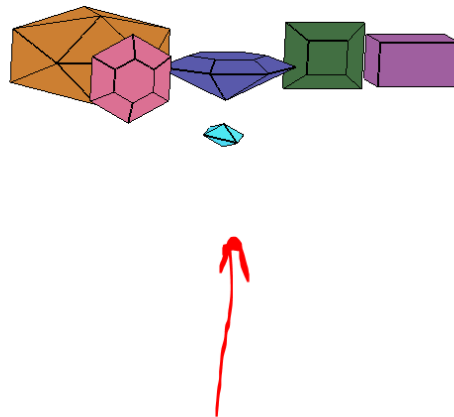


### Test Case 7

By pressing the W key you can shift all images UP, it's best when shapes have been rotated a bit to see the full effect.

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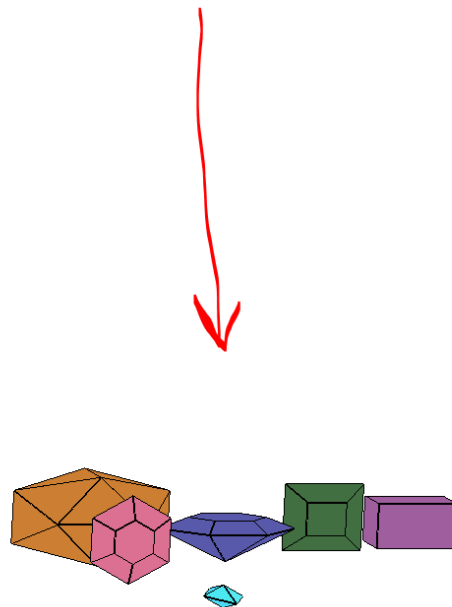


### Test Case 8

By pressing the S key you can shift all images DOWN, it's best when shapes have been rotated a bit to see the full effect.

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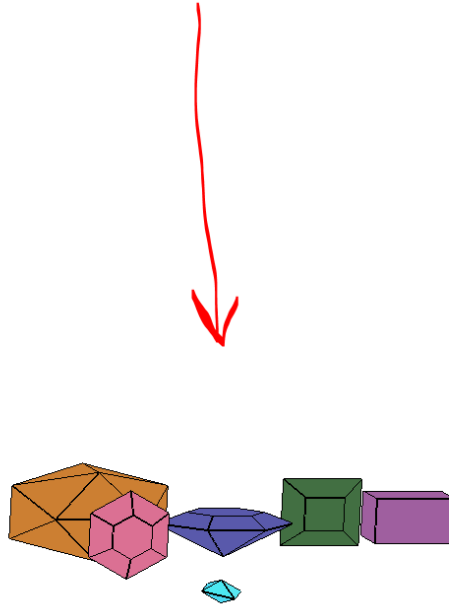


### Test Case 9

By pressing the + key you can enlarge the shapes.

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### Test Case 10

By pressing the - key you can reduce the size shapes.

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\*The code template provided by the instructor was used as the foundation for this project.