GROUP 09 ASSIGMENT 4.

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MODE OF OPERATION.

1. Unzip Group 09 Assignment 4.zip file.
2. Run index.html file.
3. The five objects are:
   1. Cube: The animation is controlled with the “1” key. The transformation applied to cube is rotating on the X and Y-axis.
   2. Sphere: The animation is controlled with the “2” key. The transformation applied to the sphere is moving back and fort.
   3. Cone: The animation is controlled with the “3” key The transformation applied to the cone is translation on the X-axis..
   4. Cylinder: The animation is controlled with the “4” key. The transformation applied to the Cylinde is non-uniform scaling (scaling along y-axis).
   5. Tetrahedron: The animation is controlled with the “5” key. The transformations applied to is uniform scaling allong all axis.
4. Default projection is Perspective projection. Toggle between Perspective and Orthographic projection by pressing P and O keys respectively.
   1. P Key for Perspective projection.
   2. O Key for Orthographic projection.
5. Ambient Light Control is used through a slider
6. R,T,L is used to turn on and turn off the Right Light, Top Light, Left Light
7. MouseHover to control the SpotLight
8. X and F is used to control the Smoth and Flat Shading
9. M is used to Move Light Continuously on the Y axis.
10. Navigation Keys and their funnctions:

|  |  |
| --- | --- |
| Key | Function |
| W | Zoom in |
| A | Pan to left |
| S | Zoom out |
| D | Pan to right |
| Left Arrow | Navigation aid to left |
| Right Arrow | Navigation aid to right |

Note: Navigation keys become active after a projection has been selected.

REFERENCES.

The following sites were consulted while trying to do this assignment:

* <https://threejsfundamentals.org/threejs/lessons/threejs-fundamentals.html>
* <https://threejs.org/docs/manual/en/introduction/Useful-links.html>
* <https://stemkoski.github.io/Three.js/Multiple-Cameras.html>

All vertices and colors were calculated personally and are original.

Workings on how they were calculated can be provided on request.