

1. **Rotate the cube periodically around a random axis passing through the origin:**  
This means that the cube rotates continuously over time around an arbitrary axis. This axis can be any vector in 3D space, chosen at random, and the cube spins around it in a periodic manner. Do not use GLM's pre-built function but construct manually the rotation matrix based on the chosen axis and the angle of rotation.
2. **Rotate the cube periodically around a random axis that doesn't pass through the origin.**
3. **Apply anisotropic scaling to the cube that is not aligned with the axes.**
4. **Rotate the cube around the y-axis by a random angle, then periodically rotate around the x-axis:**  
Here, the cube is first rotated by a random angle about the y-axis, which means the cube is reoriented in relation to the world's vertical axis. After this initial rotation, the cube rotates periodically about the x-axis, which is the world's horizontal axis.  
**Rotations are applied with respect to the fixed global axes.**
5. **Rotate the cube around the y-axis by a random angle, then periodically around its local x-axis after the rotation:**  
In this case, the cube is first rotated around the y-axis by a random angle, just like before. However, after this, it rotates periodically around its own local x-axis, which has now been transformed as a result of the initial rotation.  
**Rotations are applied with respect to the cube's own local axes, which move along with it.**
6. Investigate additional transformations (beyond scaling, rotation and translation) that can be expressed in the form  $x' = Ax$ . (optional)
7. Periodically rotate the camera around the cube. (optional)