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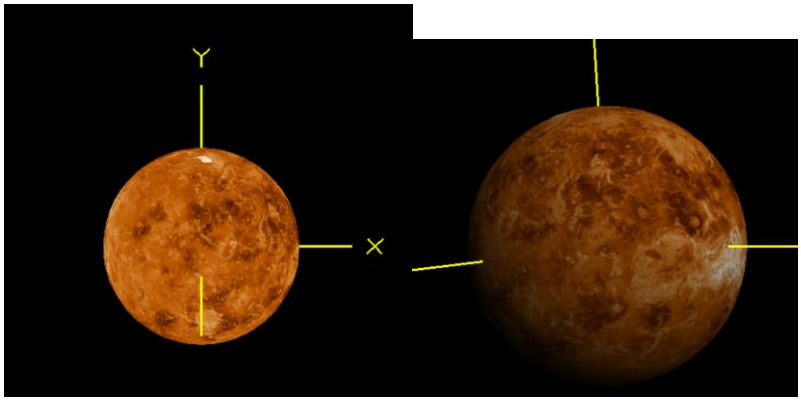
Project 05

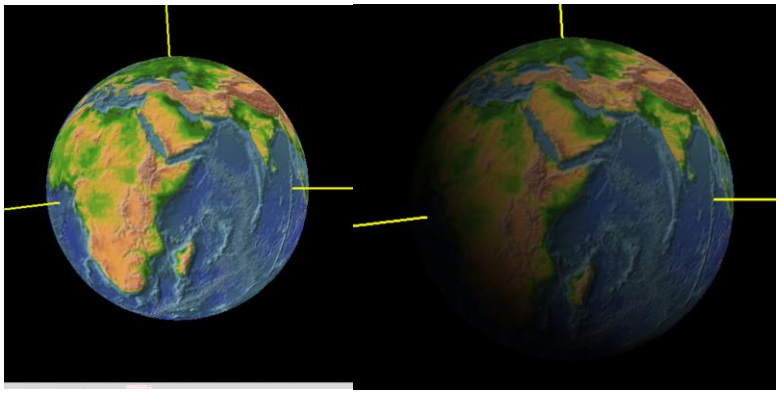
Description:

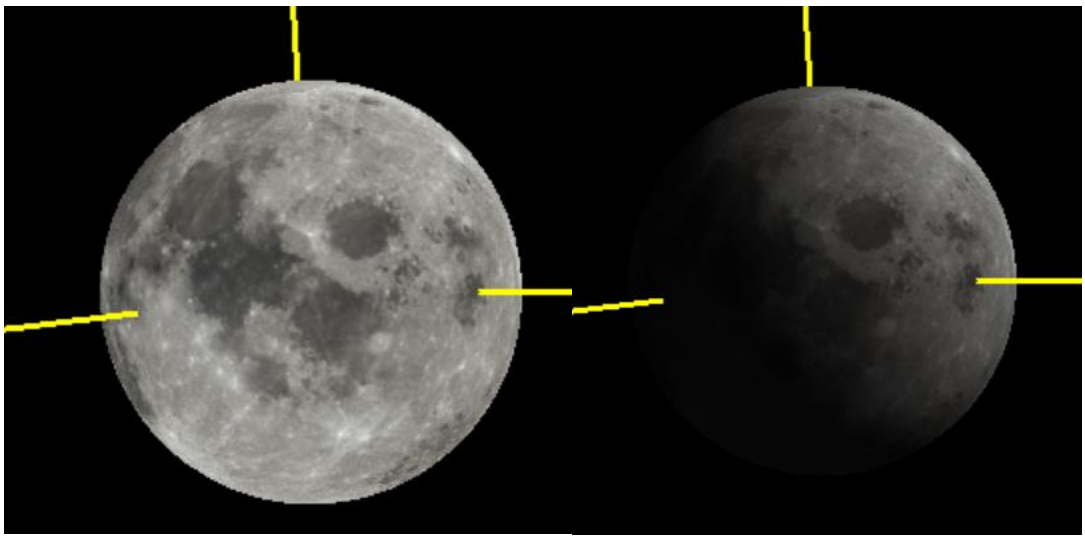
This project showcases the motion of planets in space with realistic details and textures. Each planet has a unique texture file. The sizes of the planets are adjusted for better visualization. For example, Venus is scaled to 0.95 times its base size, Earth is kept at its original size (scale of 1.0), and larger planets like Jupiter and Saturn are scaled to 11.21 and 9.45, showing their massive size. Smaller celestial bodies like the Moon and Pluto are scaled down to 0.27 and 0.19, emphasizing their smaller size compared to the larger planets.

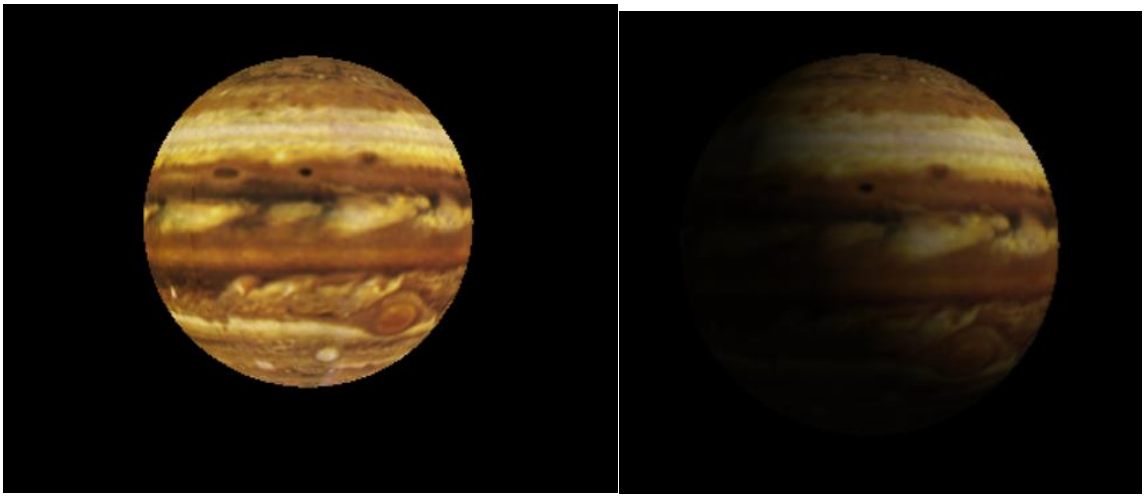
Lighting is implemented using GL_MODULATE, allowing the planets to interact dynamically with the light source, making their textures appear realistic as they move. The central body, representing the Sun, uses a static texture with GL_REPLACE, ensuring its brightness remains constant and unaffected by lighting. I have also incorporated both texture mode and light mode to enhance the visual quality and realism. Circular orbits are used for the planets' paths, and a point-light source mimics sunlight, further adding to the authenticity of the animation. This combination of textures, lighting, and dynamic movement creates an engaging and detailed representation of planetary interactions and motion.

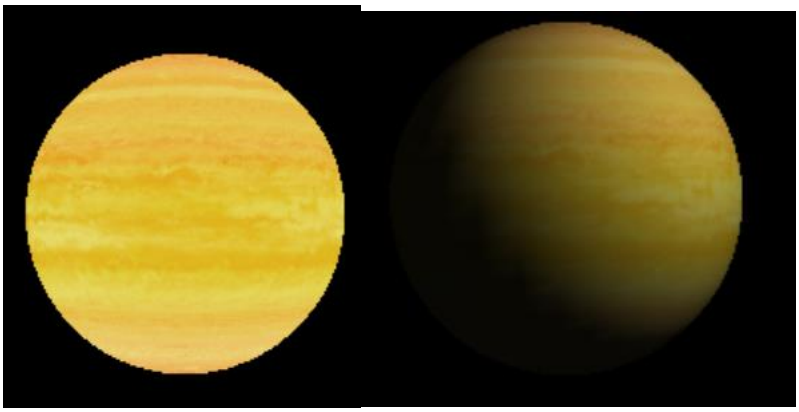
Output:

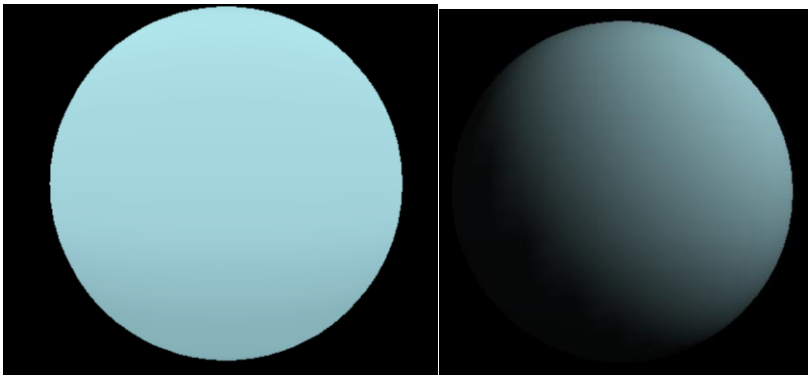


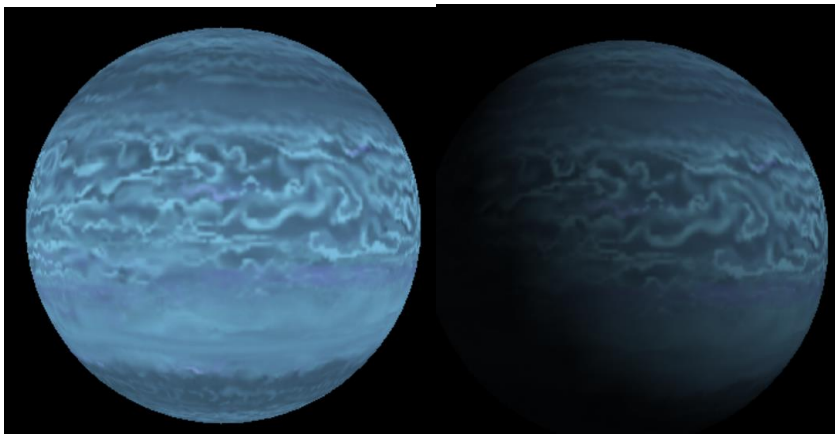


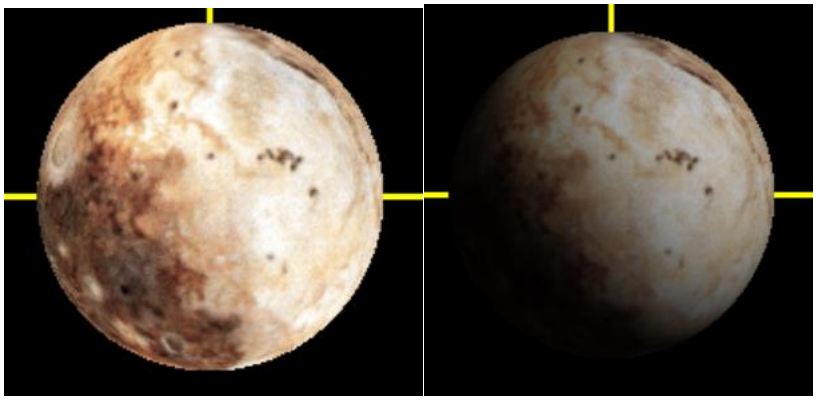


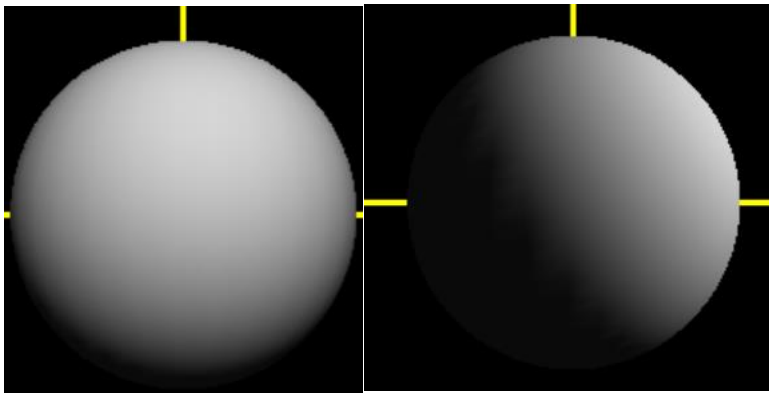












Kaltura link :

https://media.oregonstate.edu/media/t/1_96hyr9x5