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Final Project: Design Decisions

For my scene for the final project, I chose to replicate a dining set of table and chairs, with a simple game board atop the table. The chairs themselves offered a level of complexity that I found challenging initially, but that I would eventually simplify in order to apply multiple chairs dynamically in the scene. While most of the code for the environment and setup was provided for me, that left the construction of the scene up for interpretation, meaning that many of my choices were straightforward in how to apply what we were learning throughout the course.

For example, the navigational requirements for the scene meant that I would take what was taught about capturing keyboard and mouse inputs and apply it so that WASD inputs could move the “camera” with height alterations through the Q and E keys. I opted to use the line of code provided to capture all mouse inputs instead of limiting it to mouse inputs while on the display window to allow for a wider range of motion when exploring the scene. This also made it easier to view the scene from various angles during its construction to ensure all the objects were being placed correctly.

For simplicity, I created a function that would allow for the repeated creation of a complex chair object, making the overall code more readable and modular. Instead of copy-pasting the code for the chair object and adjusting the placement of each piece, I could instead use the drawchair() function that would allow me to repeat the process of creating a chair at different coordinates. The modulization of loading the light effects and the textures also aids in readability of the code while also making it easier to add or change the textures or light effects without having to dive too deep into the specifics of how the scene is created.

In conclusion, the development of this 3D scene allowed me to apply core concepts from the course in a practical and creative way. By focusing on modularity, I was able to create a clean, efficient codebase that not only met the project requirements but also provided a flexible foundation for future enhancements. The careful choice of objects, such as the dining set and game board, provided a balanced challenge that pushed my skills while staying achievable within the project’s scope. The implementation of intuitive navigation controls ensured that users could easily explore and interact with the scene, making it accessible and engaging. Overall, this project has deepened my understanding of 3D programming, and I am confident that the strategies and techniques I have employed here will serve me well in future endeavors.