Justify Development Choices

In selecting what to draw for this project, I opted for two pencils, a coaster, and a cup. These items were chosen because they are straightforward to depict in the image I selected. Each pencil is made up of a cylinder (for the body) and a cone (for the tip). The coaster is represented by a simple cylinder. As for the cup, it comprises a cylinder (for the main body) and a torus (for the handle), making it a suitable choice for this task. These selections were made to ensure ease of representation and clarity in the final picture.

View Controls

In my program, mouse movement controls the camera's orientation along the X and Y axes. This functionality is compatible with various input devices, including physical mice, laptop trackpads, and any other cursor-controlling device. Additionally, scrolling up or down adjusts the camera's translation speed, affecting its lateral movement, but not its rotational speed.

For direct camera movement, the controls are as follows: pressing W moves the camera forward, while pressing S moves it backward. A shifts the camera left, and D shifts it right. Q raises the camera vertically, and E lowers it. These controls are relative to the camera's current position, meaning that regardless of orientation, pressing W or rotating left 90 degrees and pressing D both result in movement in the same direction.

Custom Functions

In my program, I've developed a series of custom functions to handle various aspects of rendering 3D objects. Firstly, there's "LoadSceneTextures," which serves to convert jpg files into textures that my objects can utilize within the scene. Next up is "DefineObjectMaterials," which generates a range of textures tailored for my objects. These textures dictate how each object interacts with light sources shining upon them, influencing their visual appearance. Lastly, "SetupSceneLights" arranges the placement of different light sources within the scene, ensuring that the lighting setup complements the textures and enhances the overall rendering quality.