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CS-330

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A house with a driveway and lawn

AI-generated content may be incorrect.CS-330 1-4 Project review

-This is the image that I have chosen for this assignment.

I have analyzed the image and broken it down into its most basic geometric shapes. To begin with, let’s look at the house. Multiple basic shapes can be used to replicate this 2D image in a 3D environment.

For the main structure of the house, I would start with a cube. This cube should be elongated to match the full width of the house. After elongating it, I would rotate the shape slightly so both the front and left sides are visible, which helps create a sense of depth in the design. Looking at the roof, it’s clear this is a two-story house with a pitched roof that comes to a point at the peak. To model this, I would use a prism. The prism would be placed upright and rotated slightly to match the angle of the main cube. Its height should be reduced to reflect the shallow pitch of the roof, and its width expanded to cover part of the lower structure. This setup will leave room to add the second story.

The second story can be built similarly to the first, using another elongated cube. For the roof over this section, I would again use a prism, but position it so that it rests against the side of the cube. To create the extended section of the roof above the doorway, I recommend using a plane. Extending the prism through the cube isn’t ideal—it could cause rendering issues, especially in a video game context where the inner part of the shape might become visible when viewed from inside the house. For other components like the windows, doors, and garage door, planes would work well. These can be placed flat against the cube to give the appearance of these features without adding unnecessary depth or complexity.

The chimney would be constructed from a few shapes. A stretched cube can form the main body of the chimney. At the top, depending on whether it has a square or round liner, you could use a cylinder with a torus to represent an open, rounded chimney top.

As for the trees, I gave a lot of thought to the best approach. A tapered cylinder or a cone could be used for the trunk. Since trees naturally narrow as they rise, this tapering effect would be ideal. For the branches, a combination of cylinders and cones would help create a pointed look, gradually thinning toward the tips. The leaves were the most challenging part to conceptualize. I decided that a thin prism, slightly narrow at the base and rounded in shape, would best represent a single leaf or clump of foliage.

Finally, the driveway is one of the simplest elements to recreate. A flat plane placed at a slight downward angle would give the appearance that it’s receding into the distance, enhancing the depth of the scene.