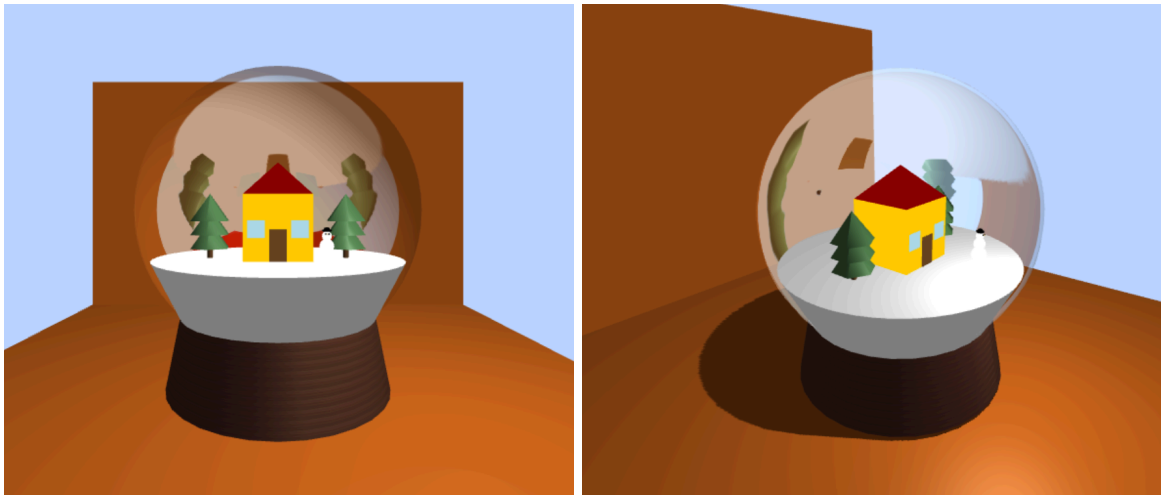


Create a “Glass” Snow Globe with Three.js

Objective: Using Three.js in CodePen, you will create a 3D snow globe scene like the following:



Instructions:

1. Create a new CodePen (remember to add the necessary scripts to your HTML)
2. Using Three.js, implement the following:

- **Glass Sphere (25 Points):**
 - Using concepts discussed in class, create a “glass” sphere that has **refraction** and **reflectivity** properties
- **Base (15 points):**
 - Design a base for the snow globe that supports the glass sphere. Apply a **texture** to the base to give it a more realistic appearance (e.g., wood or stone texture)
- **Walls and Planes (20 points):**
 - Create **at least one wall** behind the snow globe
 - Additionally, **create a plane that serves as the ground underneath the snow globe**. The wall and plane should have materials that complement the overall visual design and should be visible in your scene.
 - The wall(s) and plane should both **display shadows** from the snow globe.

- **Interior Scene (20 points):**
 - Inside the snow globe, create (or import) **at least two distinct objects**. These could include:
 - A snowman
 - A tree
 - A house or cottage
 - Add details to these objects to enhance their appearance, including colors, materials, and shading.
- **Navigation + Keyboard Controls (20 points):**
 - Implement **Orbit Controls** to allow users to navigate through the scene (rotate, zoom, and pan).
 - Add keyboard controls that allow users to:
 - **Rotate the scene left/right using the left and right arrow keys**
 - **Tilt the scene up/down using the up and down arrow keys**
 - **Zoom in/out using '=' to zoom in and '-' to zoom out**

Total Points: **100**

- **(Optional) Advanced Visuals (+5 bonus points for each addition):**
 - Add dynamic elements such as **falling snow particles**, **animated characters**, or **interactive features** to enhance the user experience.
 - Implement **advanced lighting effects** (like a sunset or dynamic color changes) to set an atmosphere for your scene.
 - Create simple **UI elements like buttons or text** to enhance user interaction.

Submission:

You will have a week and a half to complete this assignment.

When you have completed your assignment, **please submit the link to your CodePen project along with a brief reflection (1-2 paragraphs)** on the challenges you faced during implementation and how you overcame them.