

10. Snow Globe

Student learning outcomes

- Students will learn HTML5 Canvas drawing methods.
- Students will learn how to keep a large number of locations and measurements stored in an array.
- Students will learn how to use math to draw a random image in a way that does not look random but rather realistic.

Real world applications:

- The Swift drawing we will be doing next semester looks a lot like HTML5 Canvas, which uses the traditional drawing primitives such as MoveTo, LineTo, Stroke, and Fill.

Assignment requirements:

- The page will have an HTML5 Canvas element for drawing.
- The drawing will have a large tree in the foreground.
- The drawing will have smaller random trees in the background.
- The background trees will be placed randomly but will not be floating in the error.
- The drawing will have sky and ground (snow).
- The tree will have lights.
- The sky will have many snowflakes that move.
- If there is time, we may also put stars that twinkle in the sky.
- The snowflake locations will be stored in a large array so we can move them.
- HTML features:
 - Canvas
- JavaScript concepts:
 - Structures and objects to store multiple values for an element (such as x location, y location, and size)
 - Arrays to store many objects
 - Traditional drawing methods such as MoveTo, LineTo, Stroke, and Fill.

