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CS39AE

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Report

1. The Type of Visualization Selected and Why

For this assignment, I selected a stacked bar chart to visualize spending data across several categories (costumes, candy, decorations, and cards) over a series of years. This type of chart effectively represents both individual and cumulative spending trends, allowing a clear comparison of how much is spent on each category yearly and how each category contributes to the total. A stacked bar chart was an ideal choice because it visualizes multiple data points in a compact, easily interpretable format.

2. Key D3.js Features Used

The D3.js features I utilized while building the visualization include:

- **Data Binding and Stacking:** D3's stack function was used to layer each spending category, transforming the data so each category builds upon the previous one in the stack.
- **Scales and Axes:** Linear scales were applied to map spending values (y-axis), while a band scale positioned years along the x-axis. Both axes were dynamically generated with D3's axisBottom and axisLeft functions.
- **Color Scales:** The scaleOrdinal function helped differentiate each spending category with distinct colors.
- **Transitions and Interactivity:** Basic hover effects were added to highlight individual spending bars for better interactivity and data exploration.

3. Challenges Encountered and Solutions

One of the main challenges was ensuring the legend fit within the SVG container without overlapping or appearing cut off. Initially, the legend was positioned too close to the right edge, resulting in it being partially obscured. To overcome this, I adjusted the margin on the right side to add more padding, increasing the available space and keeping the legend visible. Additionally, understanding the stacked data format for D3 required some practice, particularly with setting up the stack layout and binding the nested data for each category.