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Comps A

Batch H

Aim- Experiment to design interactive dashboards and create visual storytelling using D3.js on a dataset related to Environment/Forest cover, covering basic and advanced charts

Objectives:

1. To understand how to use D3.js for data visualization.
2. To implement basic charts like Bar chart, Pie chart, Histogram, Timeline chart, Scatter plot, and Bubble plot.
3. To implement advanced charts like Word chart, Box and whisker plot, Violin plot, Regression plot (linear and nonlinear), 3D chart, and Jitter.
4. To draw observations and insights from each chart.
5. To create an interactive storytelling dashboard using the above visualizations.

Expected Outcomes:

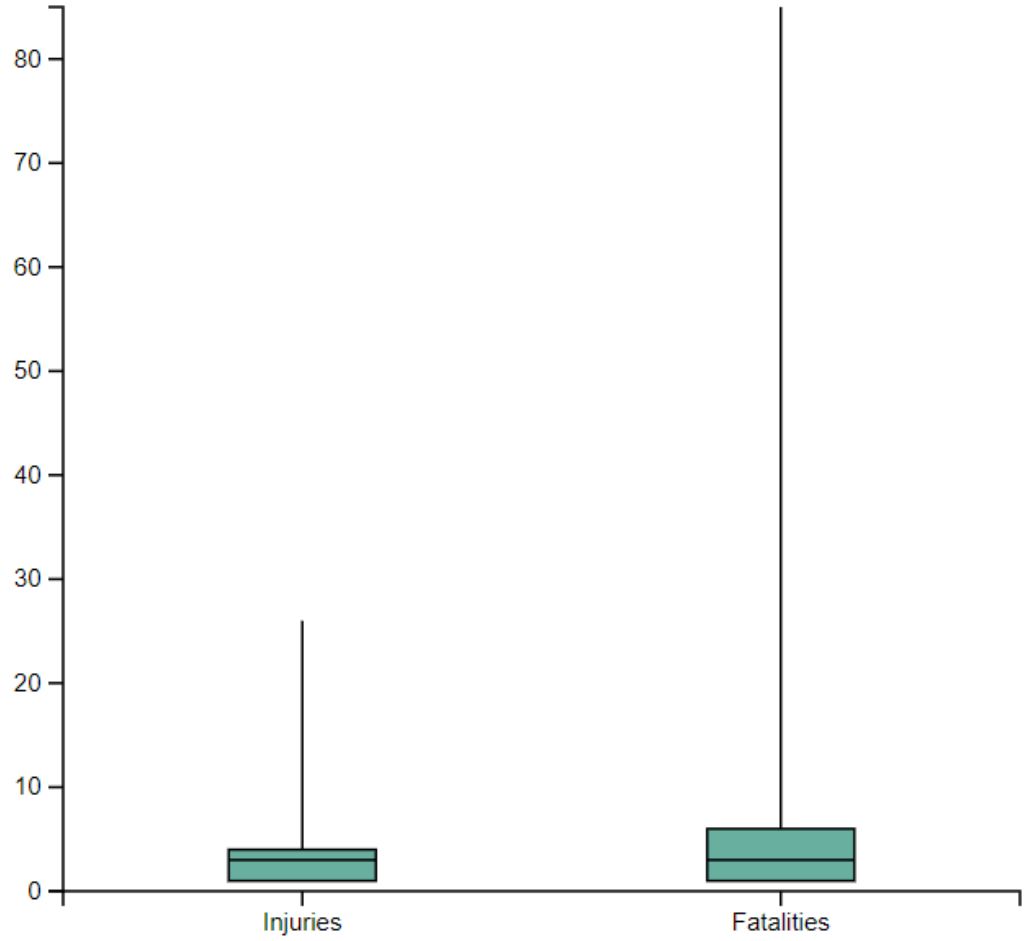
1. Ability to create various types of visualizations using D3.js.
2. Interactive dashboards demonstrating different types of charts.
3. Insights from the Environment/Forest cover the dataset through visual storytelling.

Word Chart-

Interpretation: This word cloud shows the distribution of incidents by county. Larger words represent counties with more frequent or larger incidents. For example, counties like **Placer** and **San Joaquin** have a larger presence, indicating that they likely had more fire incidents or more severe incidents compared to smaller words like **Alpine** or **Kings**.

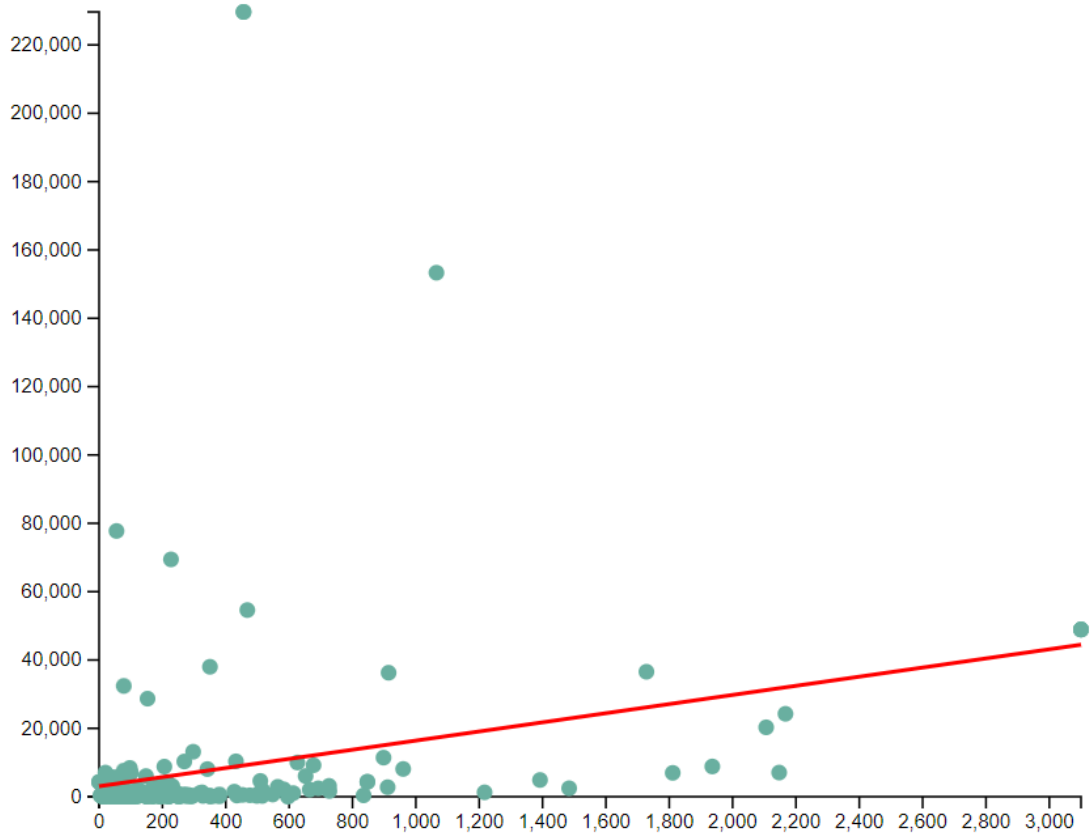
Insight: Counties with larger fonts should be further investigated to understand the reasons behind their fire incident frequency or intensity.

Box Plot-



Interpretation: The box plot represents the spread and outliers of **injuries** and **fatalities** related to fire incidents. It shows that the majority of the data for injuries is clustered toward lower values with some outliers, and for fatalities, the data has a wider spread with a larger upper range.
Insight: Most fire incidents have relatively low injuries, but there are a few incidents where injuries and fatalities are significantly high. Understanding these outlier cases could provide insights into more extreme events.

Regression Plot-



Personnel Involved VS Acres Burned

Interpretation: This scatter plot with a regression line compares the number of **personnel involved** against **acres burned**. The upward slope of the regression line suggests a positive correlation—larger fires that burn more acres generally require more personnel.
Insight: Although there is variability (with some incidents requiring more personnel even with fewer acres burned), larger fires do tend to involve more personnel. The correlation, while not extremely strong, is significant enough to consider when planning resource allocation.

Conclusion- Learnt how to make advanced Charts in D3.js. Studied california fire incidents Dataset, made advanced charts on some important statistics.