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2020070

Assignment – 1

Problem 1

1. The above graph shows the date on the x-axis, the close on the y-axis, and the trend.

Chart, line chart

Description automatically generated

1. The Graph shows the date on the x-axis, the volume on the y-axis, and the date should be the exact date.

Chart, histogram

Description automatically generated

1. In this scatterplot, the volume on the x-axis and range on the y-axis and we have calculated the range through Range = High – Low and then for both range and volume change them to dimensions.

Chart, scatter chart

Description automatically generated

Problem 2

Chart, treemap chart

Description automatically generated

The treemap represents all the cars with a given make and model. Price with the main subdivision for the Make of the car and a minor subdivision is based on the Model.

Chart, bubble chart

Description automatically generated

In the above graph, each bubble represents a single data point, and it uses color for higher-level categories and circles for sizes.

1. Both the treemap graph and the bubble graph have distinct qualities. The Treemap displays categorical data in a hierarchical structure as rectangles, whereas the Bubble Chart displays data in bubbles and utilizes color for higher-level categories and circles for sizes.

It is easy to identify the make of each automobile on the tree map since it produced a large rectangle for Cadillac, Chevrolet, and so on. So, if a user is just interested in a single brand, the tree map has an advantage in that the user can concentrate their attention on the large rectangle and obtain the necessary information without having to look elsewhere.

On the other hand, the bubble chart becomes complicated and overpowering since the colors are all over the place, making it difficult to compartmentalize the make as it is in the tree map. The large bubbles in the bubble chart made it easy to recognize and understand what was more expensive. If a consumer wanted a less costly model, they may look at the tiny circles, and vice versa. The treemap, on the other hand, does a wonderful job at grouping things by price as well, but tiny rectangles do not have the same amount of effect as a big to a small circle.

1. This heat map is excellent for quickly examining the kind and determining who sold the most based on the colors. We can see that the Chevrolet type with a sedan has the highest number count, indicating that this type of make sells well.

Chart, scatter chart

Description automatically generatedGraphical user interface

Description automatically generated with low confidence

Problem 3

Chart, bar chart

Description automatically generated

Chart, line chart

Description automatically generated

A picture containing text

Description automatically generated

Problem 4

As defined in the class, pre-attentive qualities are "visual signals that are easily visible and do not require processing to recognize." It occurs when a person looks at a graph and, before properly judging what it is displaying, it gathers initial information based on the colors, sizes, forms, location, and so on. It helps the user to quickly understand what is going on and what may be essential in a short amount of time. Combinations such as an intense color hue and a large size shape might convey to the viewer what is happening in the graph without drawing attention to the data.

1. According to Weber's rule, the just-noticeable difference between two stimuli is proportional to their magnitude. This implies that eliminating the same amount from each one results in the same difference, but the percentage difference between them varies. Including the 0 in a bar graph can be complex and misleading. A bar graph showing tickets to a show without a 0 can indicate how many more individuals subscribed every year. However, when we add the 0, we can see that the gain is tiny.

Problem 5

Text

Description automatically generated

Chart

Description automatically generated

Q1: - What kind of plans do they have?

The graph above enables the user to comprehend what each mobile phone carrier has to offer in terms of data in GB. The three distinct organizations are shown on the x-axis, while the number of GB available ranges from 1GB to 40GB on the y-axis. Because not all mobile phone providers offer the same number of GB, this graph can assist the user to determine if ATT has x amount of GB; if not, the user can check if the other two companies have that GB plan that they are searching.

Q2: - The trend of the relationship between price and data?

Chart, scatter chart

Description automatically generated

The graphic above helps the user grasp the relationship between data and price, the bigger the data, the higher the price. The data ranges from 1GB to 40GB on the x-axis, while the price ranges from $20 to $135 on the y-axis. Finally, on the right, it shows a color for the data, with the lower data GB, presented in dark blue and the higher data GB shown in light blue.