**Beer**

This bar chart on left and pie chart on right is representing the light beer sales among college and university students who drink light beer. It is categorized as categorical nominal data as it can be shown in bar chart and pie chart. The data is categorical because it groups information into distinct categories, specifically, different beer brands. It is nominal because these categories have no natural order or ranking; the assigned numbers are just labels without any quantitative significance. (e.g., 1 for Bud Light, 2 = Busch Light, 3 = Coors Light, 4 = Michelob Light, 5 = Miller Lite, 6 = Natural Light, 7 = Other brands). Nominal data is characterized by unordered categories, and in this case, the numbers represent different beer brands without any inherent ranking or order.

|  |  |
| --- | --- |
|  |  |

In the bar chart, each horizontal bar corresponds to a specific light beer brand (Bud Light, Busch Light, Coors Light, etc.), while the vertical axis represents the number of students who favor each brand. The varying lengths of the bars illustrate the distribution of preferences among college and university students for different light beer options. It provides a clear visual comparison, showing which brands are more popular based on the number of students who selected them as their favorite. Bud Light emerges as the most popular choice, evidenced by its tallest bar, reflecting the highest number of students favoring it. In contrast, Coors Light stands as the least favored, indicated by its shortest bar with the lowest number of students. The ranking continues with Michelob, Miller, Natural, and Busch, providing a clear visual comparison of the popularity hierarchy among the surveyed light beer brands.

In the pie chart, each slice represents a distinct light beer brand, such as Bud Light, Busch Light, Coors Light, and so on. The size of each slice corresponds to the proportion of students favoring that particular brand. The same popularity of the bar chart is shown in the form of area in the pie chart.

**Bills**

This histogram visually illustrates the distribution of monthly bills among 200 new residential subscribers in the first month after signing with a long-distance company. The horizontal axis is labeled with bill ranges in dollars that are continous data, while the vertical axis represents the number of customers or frequency within each range. The continuous flow of data horizontally suggests a quantitative and measurable nature of the monthly bills. This data is considered interval continuous, indicating that the intervals between the bill ranges are consistent and meaningful. The histogram serves as a valuable tool for presenting insights into the billing patterns of the surveyed subscribers, aiding the marketing manager in conveying key findings to senior executives.

On this histogram, the majority of customers pay between 0-10 dollars, with the second-highest group paying 10-20 dollars. Interestingly, the highest bills of 110-120 dollars don't have the fewest customers, suggesting that cost may not be the main factor. It appears that customers prioritize lower bills, but there may be other considerations beyond cost, such as specific service needs. For instance, the 60-70 dollar range has the fewest customers, indicating a balance between affordability and desired services.A graph of different colored squares

Description automatically generated

**House Price and Size:**

In the scatterplot, each point represents a home within the real estate agent's sample, with the x-axis depicting the size of the home in hundreds of square feet and the y-axis indicating the selling price in millions of dollars. I believe we can consider this data to be quantitative continous. This visual representation offers insights into the potential relationship between home size and selling price. Larger homes tend to exhibit higher selling prices, as evidenced by a generally upward trend in the scatterplot. While there is a noticeable positive correlation between size and price, further analysis or statistical methods may be employed to quantify the strength and significance of this relationship. The scatterplot serves as a valuable tool for the real estate agent in gauging the initial understanding of the size-price dynamics within the sampled homes, aiding in making informed decisions for future property assessments.A graph with numbers and a chart

Description automatically generated with medium confidence

The scatterplot reveals a positive correlation between housing size and price, forming a linear trend. However, an optimal point is reached where size no longer proportionally influences price. Notable instances include a 360 million dollar house with 2700 square feet and a 310 million dollar property with over 3000 square feet. Factors like location, not considered in the plot, contribute to these variations. Significant outliers are observed, such as a sub-200 million dollar house with 1800 square feet and a 220 million dollar property spanning 150 square feet. These variations underscore the importance of considering additional factors beyond size in understanding housing prices.