Part 1: general questions.

1. Which of the following is NOT a primary goal of data visualization?
    1. To uncover hidden patterns in the data.
    2. To improve the visual appeal of the data.
    3. To facilitate communication of insights.
    4. To simplify complex datasets for better understanding.
2. When would it be inappropriate to use a pie chart?
    1. When comparing percentages that sum to 100%.
    2. When visualizing data with too many categories.
    3. When showing part-to-whole relationships.
    4. When the dataset contains only two categories.
3. What is the biggest drawback of using 3D charts for data visualization?
    1. They require advanced tools to create.
    2. They often distort data interpretation.
    3. They are harder to understand for non-technical audiences.
    4. They cannot represent categorical data.
4. In which scenario would a treemap be most effective?
    1. When analyzing hierarchical data with part-to-whole relationships.
    2. When comparing trends over time.
    3. When visualizing the correlation between two numerical variables.
    4. When representing changes in a dataset's central tendency.
5. If your goal is to show the relationship between two variables while highlighting clusters, which visualization technique would you use?
    1. Heatmap.
    2. Scatter plot.
    3. Line chart.
    4. Histogram.
6. Why might an interactive visualization be preferable to a static one in a dashboard?
    1. It is easier to create.
    2. It provides a fixed view of the data.
    3. It allows users to explore specific data points or patterns.
    4. It eliminates the need for labels and legends.
7. When creating a bar chart, what common mistake can lead to misleading insights?
    1. Using bars of the same color.
    2. Not starting the y-axis at zero.
    3. Including too few categories.
    4. Labeling the x-axis and y-axis clearly.
8. What is the primary limitation of using a word cloud for text analysis?
    1. It requires advanced statistical knowledge to create.
    2. It is only effective for small datasets.
    3. It does not provide quantitative context or relationships.
    4. It cannot be used with unstructured data.
9. Which of the following techniques is most suitable for visualizing the density of data points in a scatter plot?
    1. Color gradients or heatmaps.
    2. Adding lines of best fit.
    3. Using pie charts for each cluster.
    4. Annotating individual data points.
10. Why is it important to understand the audience when designing data visualizations?
    1. To choose a chart type that suits their technical expertise and focus.
    2. To limit the amount of information shared.
    3. To ensure the visualization uses only complex techniques.
    4. To avoid creating multiple iterations of the same chart.

Part 2:

Data Type-Driven Visualization

1. Which visualization is best suited for showing the distribution of a single continuous variable?
    1. Bar chart
    2. Histogram
    3. Line chart
    4. Scatter plot
2. When working with time-series data, which chart type would typically be the most effective?
    1. Box plot
    2. Line chart
    3. Treemap
    4. Pie chart

3. If you want to compare the frequencies of categories in a dataset, which chart type is most appropriate?**
    1. Scatter plot
    2. Bar chart
    3. Heatmap
    4. Histogram
4. Which visualization type is ideal for representing relationships between two continuous variables?**
    1. Line chart
    2. Scatter plot
    3. Treemap
    4. Box plot
5. If you have hierarchical data to visualize, what is the most suitable option?
    1. Treemap
    2. Bar chart
    3. Histogram
    4. Line chart

Purpose-Driven Visualization

6. When the goal is to emphasize part-to-whole relationships, which visualization type is the most appropriate?
    1. Stacked bar chart
    2. Pie chart
    3. Line chart
    4. Scatter plot
7. To help users explore data interactively and identify patterns, which type of visualization should you choose?
    1. Heatmap
    2. Static line chart
    3. Interactive dashboard
    4. Pie chart
8. If the purpose of the visualization is to highlight anomalies in the dataset, which chart type is most suitable?
    1. Scatter plot
    2. Box plot
    3. Histogram
    4. Treemap
9. Which visualization technique is best for presenting comparisons between categories in a dataset?
    1. Line chart
    2. Stacked bar chart
    3. Scatter plot
    4. Histogram
10. To tell a narrative and guide the viewer through the insights step by step, which approach is best?
    1. Interactive dashboards
    2. Infographics
    3. Static scatter plot
    4. Histogram