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Batch:CC1

Roll No:01

PRN:202401050010

1. Bar Chart

- **Significance:** Used to compare **categorical data**.

- **Best For:** Showing differences in size or frequency across categories.

- **Example Use:** Sales by product category, population by country.

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2. Line Chart

- **Significance:** Ideal for visualizing **trends over time**.

- **Best For:** Continuous data, time-series data.

- **Example Use:** Stock prices over months, temperature variation during a year.

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3. Pie Chart

- **Significance:** Shows **proportions or percentages** within a whole.

- **Best For:** Displaying part-to-whole relationships.

- **Example Use:** Market share of different companies.

Note: Use sparingly; can be hard to read with many categories.

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4. Histogram

- **Significance:** Visualizes the **distribution** of a continuous variable.

- **Best For:** Understanding frequency and spread.

- **Example Use:** Age distribution of a population, exam scores.

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5. Scatter Plot

- **Significance:** Shows **correlation** between two continuous variables.

- **Best For:** Identifying relationships, trends, or outliers.

- **Example Use:** Height vs. weight, sales vs. advertising budget.

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6. Box Plot (Box-and-Whisker Plot)

- **Significance:** Summarizes **central tendency, dispersion, and outliers**.

- **Best For:** Comparing distributions across groups.

- **Example Use:** Test scores by class, income distribution by region.

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7. Area Chart

- **Significance:** Like a line chart, but filled—emphasizes **magnitude**.

- **Best For:** Visualizing cumulative data over time.

- **Example Use:** Total revenue over quarters, web traffic growth.

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8. Heatmap

- **Significance:** Shows **data density or correlation** using colour

- **Best For:** Identifying patterns, trends, or relationships in large datasets.

- **Example Use:** Correlation matrices, website user behaviour

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9. Bubble Chart

- **Significance:** An extension of scatter plots that includes a **third variable (size)**.

- **Best For:** Multi-variable comparisons.

- **Example Use:** GDP vs. population with bubble size showing carbon emissions.

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10. Donut Chart

- **Significance:** A variant of a pie chart with a blank c enter **visually lighter**.

- **Best For:** Same as pie chart, but often easier to label and interpret.

- **Example Use:** Budget breakdown.