Statistical Method

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Contents

1   Basic Concepts

Definition 1.1 (variable). • **Quantitive variable**:Variables that take numerical values for which arithmetic operations, such as adding and averaging, work.

- **Categorical variables**:Variables that fall into one of several categories. What can be counted is the count or proportion of individuals in each category.

Ways to chart quantitative data

- Histograms:

    - The range of values that a variable can take is divided into equal size.

    - The histogram shows the number of individual data points that fall into each interval.

    - It is called **unimodel** if it has a single peak and **bimodel** if it has two peaks.

    - **outliers**: Outliers are observations that lie outside the overall pattern of a distribution. Always look for outliers and try to explain them.()

- Line graphs: time plots.

    - A **trend** is a rise or fall that persists over time, despite small irregularities.

    - A pattern that repeats itself at regular intervals of time is called **seasonal variation**.

Index

List of Theorems