

(1) Introduction to Medical Statistics

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Outlines

- Terminology
- Variable types and measurement scales

Learning outcomes

- Understand the basic terms in statistics
- Able to differentiate between descriptive and inferential statistics
- Able to describe variable types and measurement scales

Terminology

Medical Statistics

- Statistics is a field of study dealing with:
 1. Collection, organization, summarization and analysis of data
 2. Making inference/conclusion about population data from sample data
- Medical statistics (a.k.a. biostatistics) deals with applications of statistics in medical and health sciences

Classification

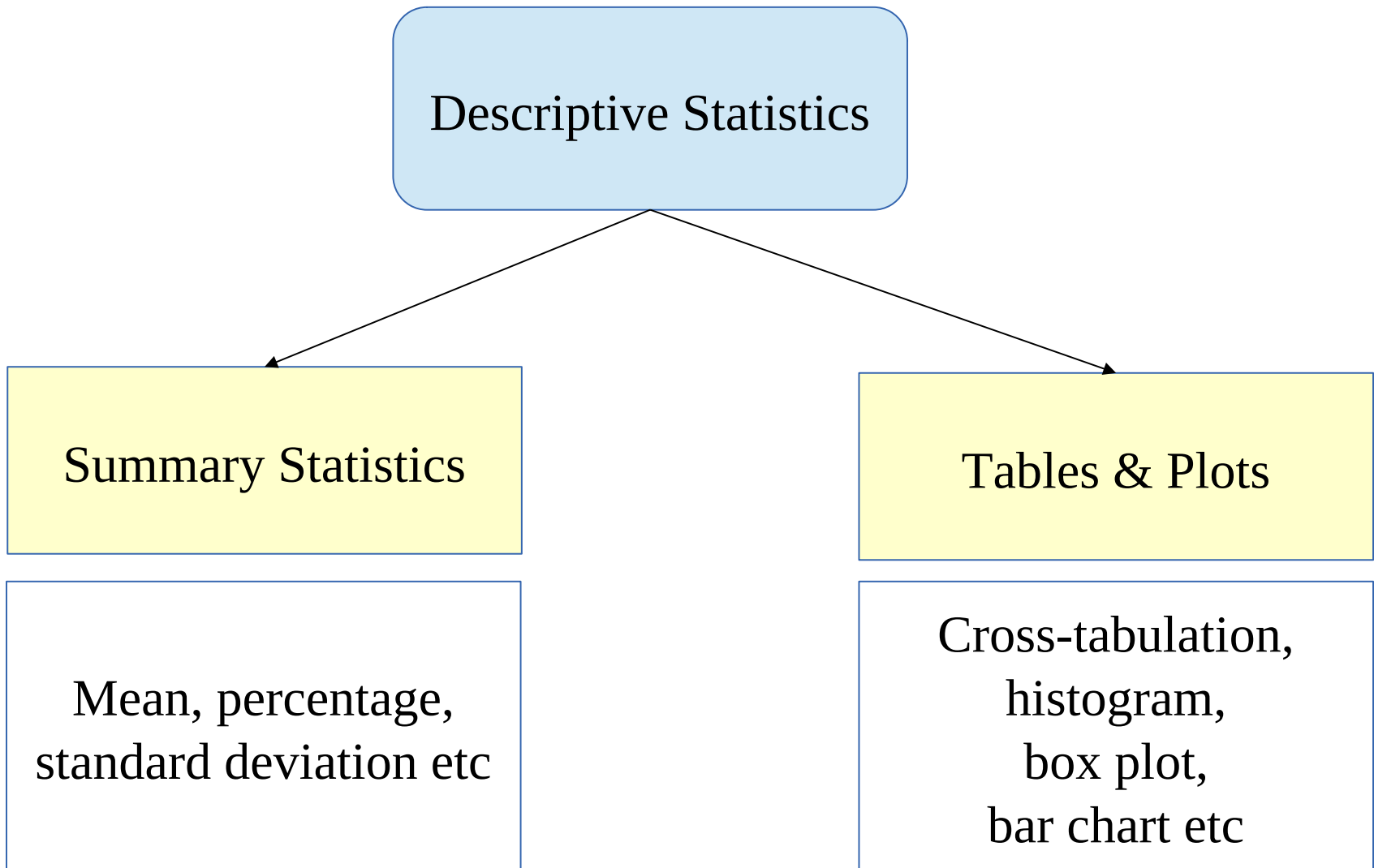
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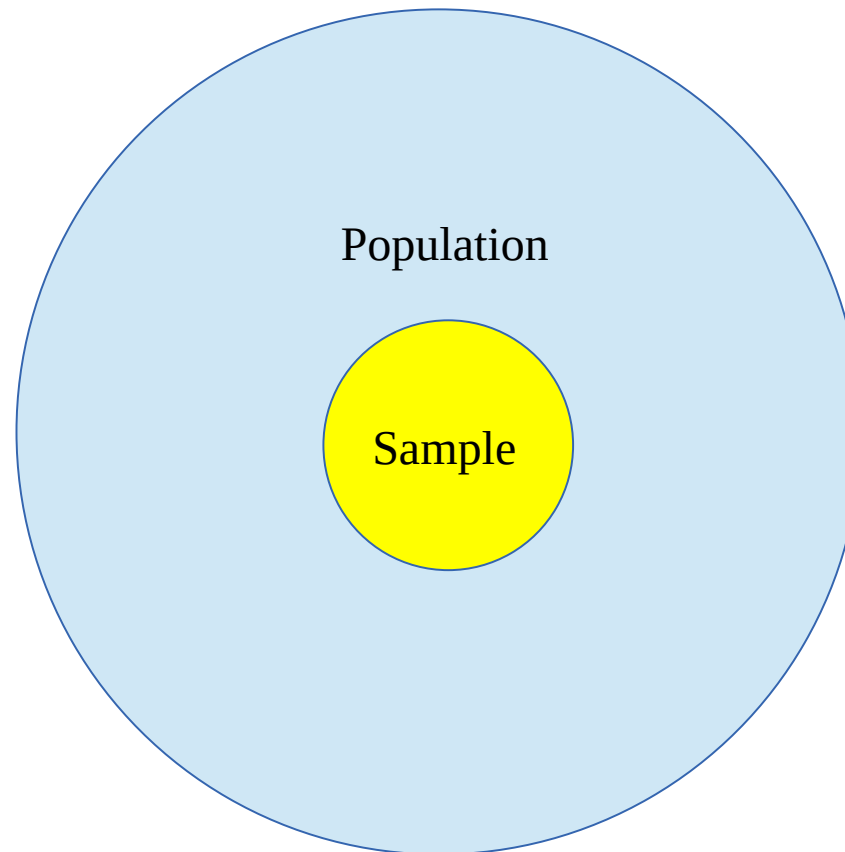
Descriptive Statistics

Inferential Statistics



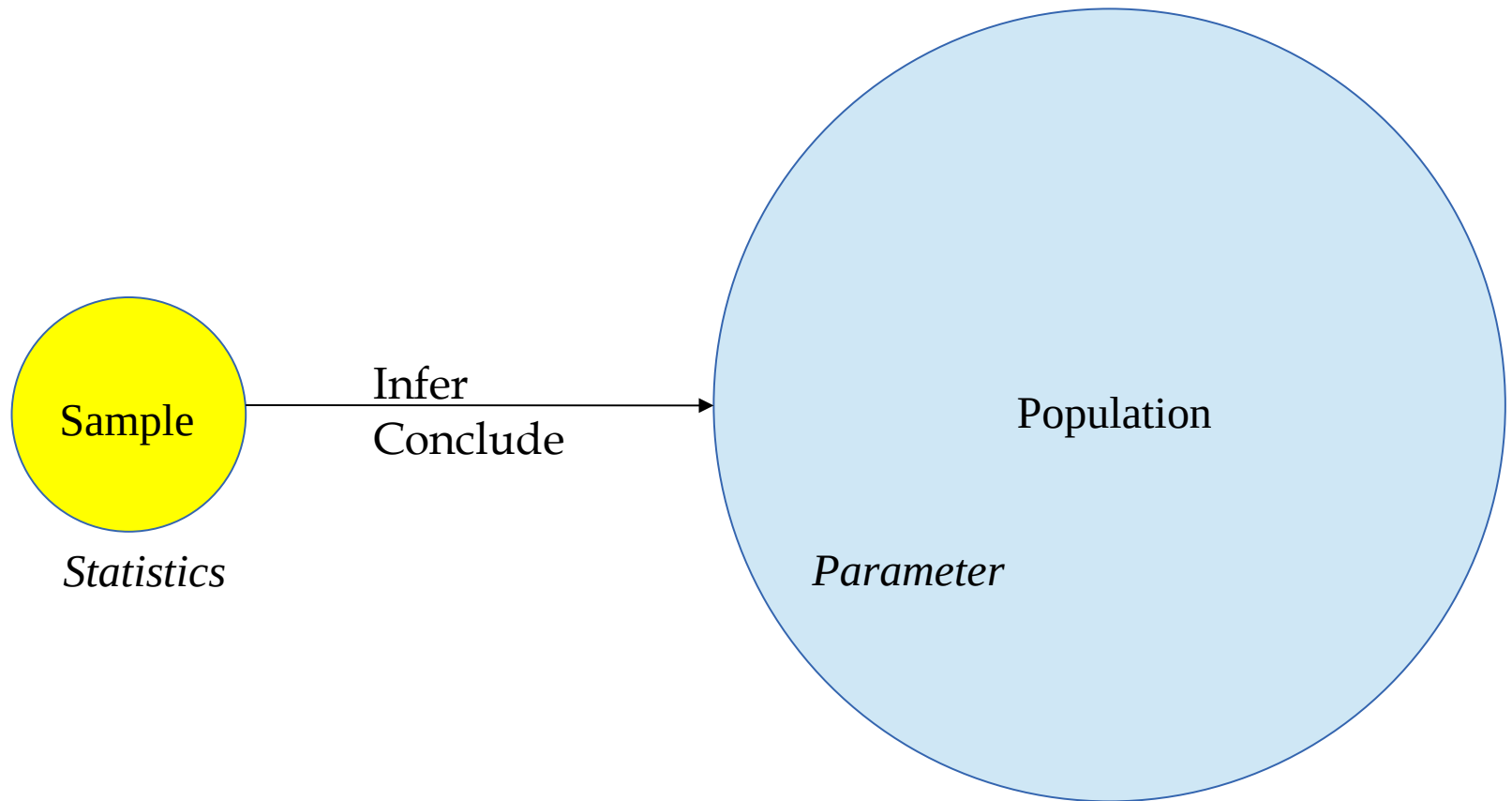
Inferential Statistics

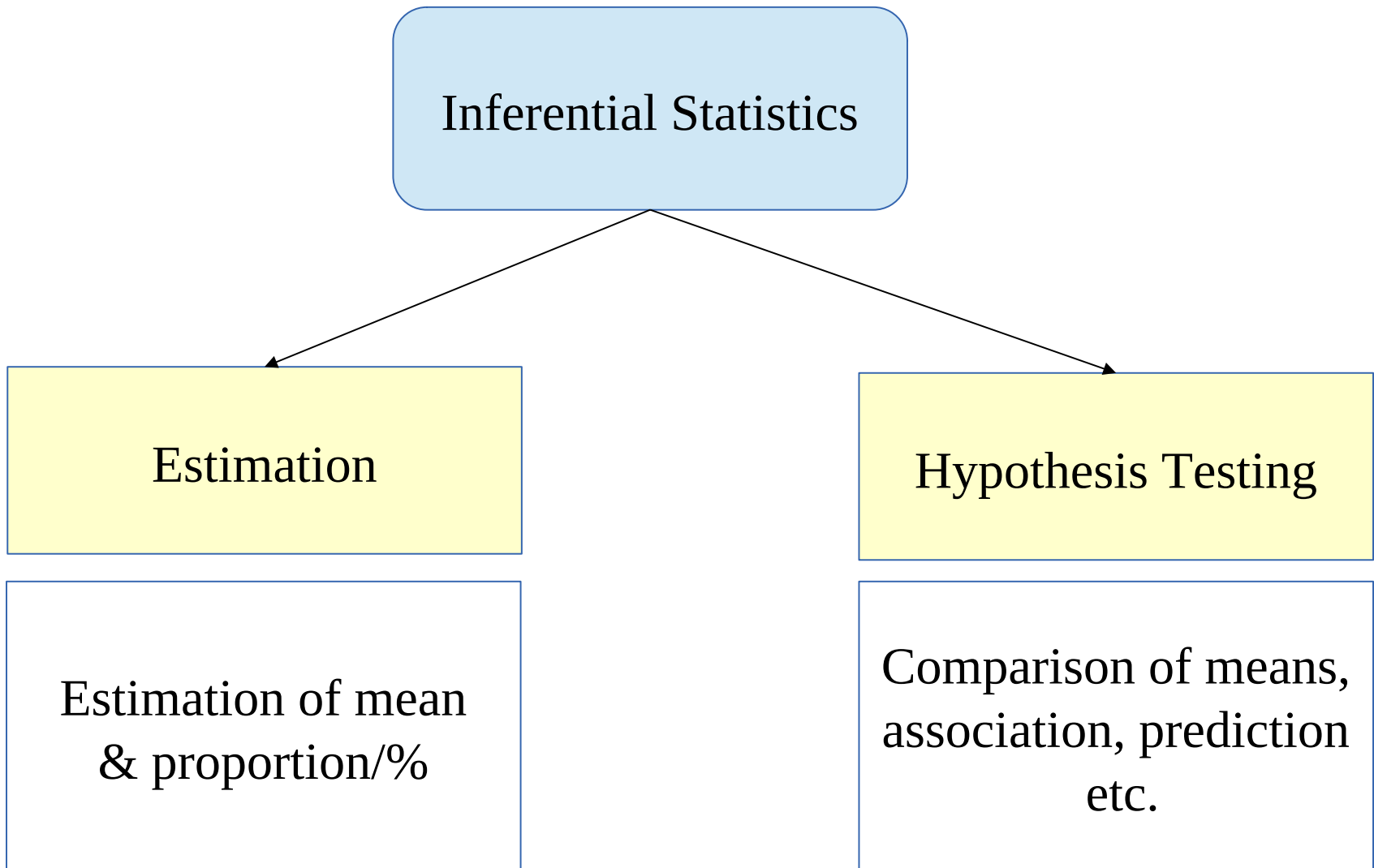
- Population vs sample



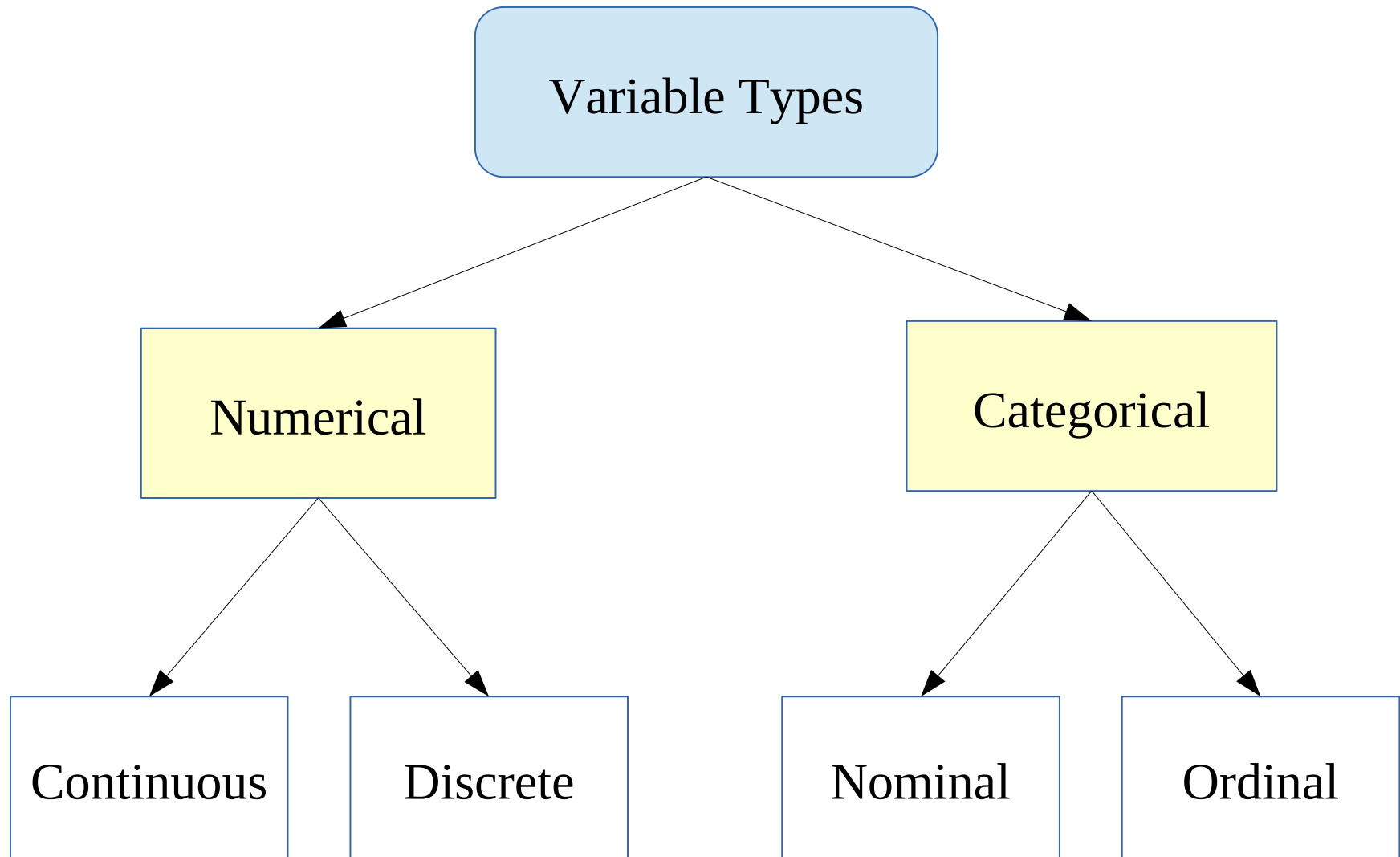
Inferential Statistics

- Inference





Variable types and Measurement scales



Numerical / Quantitative Variable

Measurement Scales

Continuous

- Continuity in value
- Fractions/decimals possible
- Weight 67.8kg, 1/2kg
- SBP 120mmHg
- Temperature 35.5°C etc

Discrete

- Count / number of something
- 10 patients. 20 hospitals etc
- Fractions/decimals impossible
- Can't be 1/2 patient! or 0.25 hospital

Categorical / Qualitative variable

Measurement Scales

Nominal

- No order
- Gender: Male/Female
- Diabetes: Yes/No etc

Ordinal

- Order
- Cancer staging: I/II/III
- Severity: Mild/Moderate/Severe

Quiz

- Describe the difference between descriptive and inferential statistics
- Name two variable types
- Describe the measurement scales for:
 - Numerical
 - Categorical

Thank You