

Outline

- 1 Introduction to Statistics
 - Why?
 - What?
 - Probability
 - Statistics
 - Some Examples
 - Making Inferences
 - Inferential Statistics
 - Inductive versus Deductive Reasoning
- 2 Basic Probability Revisited
- 3 Sampling
 - Samples and Populations
 - Sampling Schemes
 - Deciding Who to Choose
 - Deciding How to Choose
 - Non-probability Sampling
 - Probability Sampling
 - A Practical Application
 - Study Designs
 - Classification
 - Qualitative Study Designs
 - Popular Statistics and Their Distributions
 - Resampling Strategies
- 4 Exploratory Data Analysis - EDA
 - Why?
 - Motivating Example
 - What?
 - Data analysis procedures
 - Outliers and Influential Observations
 - How?
 - One-way Methods
 - Pairwise Methods
 - Assumptions of EDA