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Producing data

Toward statistical inference

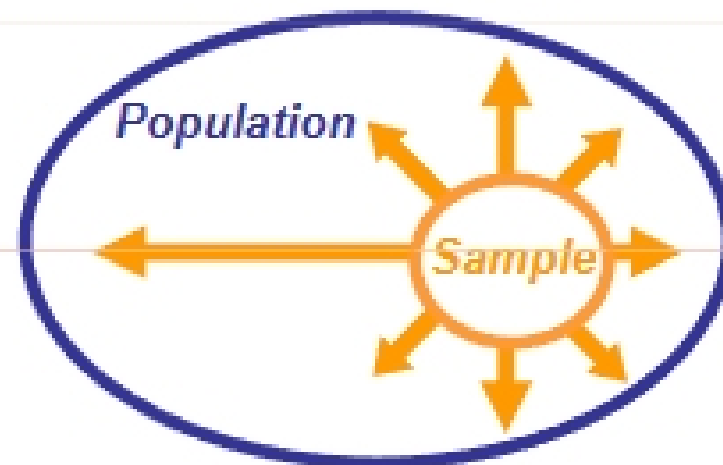
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Section 3.3

# Toward statistical inference

**Idea:** Use “sampling” to understand statistical inference

- ▣ Statistical inference is when a conclusion about a population is inferred from the characteristics of a sample drawn from it



# Terminology

- A **parameter** is a number that describes a characteristic of a population
  - Ex:  $p$  is the proportion with some trait in the population
  
- A **statistic** is a number that describes a characteristic of a sample
  - Ex:  $\hat{p}$  is the proportion with the trait in the sample
  
- The observed value of a statistic is used to **estimate** the unobserved value of a parameter
  - Ex:  $\hat{p}$  estimates  $p$