STA 3100 Programming With Data in R: Sampling

Sampling in R

Key Concepts

- Sampling is the process of selecting a subset of observations from a larger population.
- Sampling can be done randomly or systematically.
- Sampling is used to make inferences about a population based on a smaller sample.

Definitions

- Population: The entire set of observations or elements from which a sample is taken.
- Sample: A subset of observations or elements from a population.
- Random Sampling: A sampling technique that gives each element in the population an equal chance of being selected.
- Systematic Sampling: A sampling technique that selects every kth element from the population.

Coding Examples

Random Sampling

Start of Code

```R
# Generate a random sample of size 10 from a population of size 100
sample(1:100, 10)
```

End of Code

Systematic Sampling

Start of Code

```R
# Generate a systematic sample of size 10 from a population of size 100
seq(1, 100, by = 10)
```

End of Code

Practice Multiple Choice Questions

Q: What is sampling?

A: A) Sampling is the process of selecting a subset of observations from a larger population.