

STAT 151 Midterm Review

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Outline

- 1 Introduction to Presentation
- 2 Types of Samples
 - Biased
- 3 Types of Studies
 - Types of Obserational Studies
- 4 Quartiles
- 5 Mean, Median, IQR, and Standard Deviation
- 6 Normal Distributions
- 7 Expected Value
- 8 Dependent Probability
- 9 Sampling Distributions
- 10 Sample Questions

Introduction to Presentation

This presentation was made by Arseniy Kouzmenkov for the LHSA.

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Now that the expectations are set, let's begin!

Types of Samples

- Simple Random Sample:

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- Systematic Sampling:

Selection from the whole population based on a specific method.

e.g.: Picking every 9th hockey player for a survey.

Types of Samples – Biased

- Voluntary Response Sampling:

A sample consisting entirely of volunteers.

e.g.: Residence Services asking for Lister's feedback about the meal plan in their newsletter.

- Convenience Sampling:

A sample consisting of easy to reach responses.

e.g.: Interviewing only people on your floor about topics concerning the entire tower.

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- Experimental:

Researchers change a factor to study how it affects a group. You may infer cause and effect relationships.

e.g.: Giving the sick roommates flu medication and studying it's effects.

Types of Observational Studies

- Retrospective:

Researchers study a group from a past time period and study how it compares to other similar groups

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- Prospective:

Researchers set certain criteria and follow a group that fulfills the criteria to see how it may affect outcomes.

e.g.: Following some Lister residents on campus to see if they eat outside of the cafeteria.

Quartiles

Mean, Median, IQR, and Standard Deviation

Normal Distributions

Expected Value

Dependent Probability

Sampling Distributions

Sample Questions