

SESSION PLAN

Session Name

Making Inference from Data

Learning Outcomes

- Make an inference about population from a sample of data
- Develop an intuition about point estimates and interval estimates
- Learn how to test your assumptions about data using statistical methods
- Understand the different errors involved in testing assumptions

Prerequisites for the Student

- Making Inference from Data

Student Activities

- Show them an introductory video: <https://www.youtube.com/watch?v=sxYrzz3cq8>
- We have a dataset which contains a list of Monthly Home Sale Prices in a market. Since we are looking at all of the selling prices within the market. Calculate the population mean for the given sale prices.
\$250000,\$175000,\$325000,\$185000,\$450000,\$275000,\$255000,\$320000,\$310000,\$120000
\$280,000
 - Calculate the sample mean for first 3 sale prices
 - Also calculate the sample mean for next three sale prices
 - And compare sample mean with the population mean.
 - What if we calculate sample mean multiple times, will the average of all sample means be closer to the population mean?
- Overview of Making Inference from Data
 - Statistical Estimation
 - Test of Hypothesis
- Practice problems on Sample Mean & Population Mean, Confidence Interval, Hypothesis testing
 - Refer the GitHub repo for problems
- Quiz on Making Inference from Data .
- Questions and Discussion on doubts - AMA

Next Session

- Concept - Make your first Prediction with Linear Regression
- Key topics to be highlighted - highlight where they would need to spend more time and importance w.r.t Data Science.
 - Motivation for Linear Regression
 - Assumptions for Linear Regression
 - Ordinary Least Squares method
 - Error metrics like RMSE, R-squared, MAE