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=sxYrzzy3cq8 (5 min)
- 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 (15 min)
  - 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 (60 min)
  - Statistical Estimation
  - Test of Hypothesis
- Practice problems on Sample Mean & Population Mean, Confidence Interval, Hypothesis testing
  - Refer the GitHub repo for problems (60 min)
- Quiz on Making Inference from Data . (10 min)
- Questions and Discussion on doubts - AMA (60 min)

Next Session

- Concept - Make your first Prediction with Linear Regression (30 min)
- 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