

NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Mathematics - NOC:Essentials of Data Science With R Software 2: Sampling Theory and Line

Subject Co-ordinator - Prof. Shalabh

Co-ordinating Institute - IIT - Kanpur

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - What is Data Science ?
Lecture 2 - Installation and Working with R
Lecture 3 - Calculations with R as a Calculator
Lecture 4 - Calculations with Data Vectors
Lecture 5 - Built-in Commands and Missing Data Handling
Lecture 6 - Operations with Matrices
Lecture 7 - Data Handling
Lecture 8 - Graphics and Plots
Lecture 9 - Sampling, Sampling Unit, Population and Sample
Lecture 10 - Terminologies and Concepts
Lecture 11 - Ensuring Representativeness and Type of Surveys
Lecture 12 - Conducting Surveys and Ensuring Representativeness
Lecture 13 - SRSWOR, SRSWR, and Selection of Unit - 1
Lecture 14 - SRSWOR, SRSWR, and Selection of Unit - 2
Lecture 15 - Probabilities of Selection of Samples
Lecture 16 - SRSWOR and SRSWR with R with sample Package
Lecture 17 - Examples of SRS with R using sample Package
Lecture 18 - Simple Random Sampling : SRS with R using sampling and sample Packages
Lecture 19 - Simple Random Sampling : Estimation of Population Mean
Lecture 20 - Simple Random Sampling : Estimation of Population Variance
Lecture 21 - Simple Random Sampling : Estimation of Population Variance
Lecture 22 - SRS: Confidence Interval Estimation of Population Mean
Lecture 23 - SRS: Estimation of Mean, Variance and Confidence Interval in SRSWOR using R
Lecture 24 - SRS: Estimation of Mean, Variance and Confidence Interval in SRSWR using R
Lecture 25 - Sampling for Proportions and Percentages : Basic Concepts
Lecture 26 - Sampling for Proportions and Percentages : Mean and Variance of Sample Proportion
Lecture 27 - Sampling for Proportions and Percentages : Sampling for Proportions with R
Lecture 28 - Stratified Random Sampling : Drawing the Sample and Sampling Procedure
Lecture 29 - Stratified Random Sampling : Estimation of Population Mean, Population Variance and Confidence I

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- Lecture 30 - Stratified Random Sampling : Sample Allocation and Variances Under Allocation
- Lecture 31 - Stratified Random Sampling : Drawing of Sample Using sampling and strata Packages in R
- Lecture 32 - Stratified Random Sampling : Drawing of Sample Using survey Package in R
- Lecture 33 - Bootstrap Methodology : What is Bootstrap and Methodology
- Lecture 34 - Bootstrap Methodology : EDF, Bootstrap Bias and Bootstrap Standard Errors
- Lecture 35 - Bootstrap Methodology : Bootstrap Analysis Using boot Package in R
- Lecture 36 - Bootstrap Methodology : Bootstrap Confidence Interval
- Lecture 37 - Bootstrap Methodology : Bootstrap Confidence Interval Using boot and bootstrap Packages in R
- Lecture 38 - Bootstrap Methodology : Example of Bootstrap Analysis Using boot Package
- Lecture 39 - Introduction to Linear Models and Regression : Introduction and Basic Concepts
- Lecture 40 - Simple Linear Regression Analysis : Basic Concepts and Least Squares Estimation
- Lecture 41 - Simple Linear Regression Analysis : Fitting Linear Model With R Software
- Lecture 42 - Simple Linear Regression Analysis : Properties of Least Squares Estimators
- Lecture 43 - Simple Linear Regression Analysis : Maximum Likelihood and Confidence Interval Estimation
- Lecture 44 - Simple Linear Regression Analysis : Test of Hypothesis and Confidence Interval Estimation With R
- Lecture 45 - Multiple Linear Regression Analysis : Basic Concepts
- Lecture 46 - Multiple Linear Regression Analysis : OLSE, Fitted Model and Residuals
- Lecture 47 - Multiple Linear Regression Analysis : Model Fitting With R Software
- Lecture 48 - Multiple Linear Regression Analysis : Properties of OLSE and Maximum Likelihood Estimation
- Lecture 49 - Multiple Linear Regression Analysis : Test of Hypothesis and Confidence Interval Estimation on 1
- Lecture 50 - Analysis of Variance and Implementation in R Software
- Lecture 51 - Goodness of Fit and Implementation in R Software
- Lecture 52 - Variable Selection using LASSO Regression : Introduction and Basic Concepts
- Lecture 53 - Variable Selection using LASSO Regression : LASSO with R