AjarAble

CERTIFIED R DEVELOPER

CRD

Duration: 3 days; Instructor-led | Virtual Instructor-led

OVERVIEW

The R programming language is an open source scripting language for predictive analytics and data visualization. R is growing into one of the most popular and in-demand analytics tool given its open-source & free nature, advanced analysis and visualization abilities. Benefits of learning R with us:

- Become proficient in manipulating, analyzing and visualizing data through the powerful R language
- Relevant examples and case studies make the learning more effective and easier
- Gain hands-on knowledge through the problem solving based approach of the course along with working on assignments and solving quizzes.

Today, R is being adopted by enterprise users for big data analytics and is increasingly being seen as a challenger to more traditional statistical and advanced analytic platforms.

OBJECTIVES

- Understand the basics of the R programming language and its capabilities for predictive analytics and data visualization
- Learn how to manipulate, analyze, and visualize data using R
- Gain hands-on knowledge through problem solving and working on assignments and quizzes
- Learn about the various data types and data structures in R
- Learn how to read and write data from various sources, including tabular data files and csv files
- Learn how to perform basic statistics and statistical tests in R
- Learn about data visualization techniques in R, including creating bar charts, scatter plots, and histograms
- Learn about data manipulation techniques in R, including merging data frames, handling missing values and outliers, and data aggregation
- Learn about the concepts of flow control, debugging tools, and functions in R
- Learn about statistical modeling in R, including simple linear regression, multiple regression, logistic regression, clustering and PCA
- Learn how to apply R in big data analytics and how it is increasingly being seen as a challenger to more traditional statistical and advanced analytic platforms.

PREREQUISITES

- No prerequisites

AUDIENCE

- Data Scientists
- Business Analysts
- Data Analysts
- Those working in academia or science for tasks specifically involving statistical analysis.

CERTIFICATION

Cybertronium Certification
Certified R Developer

- Exam Platform: KALAM
- Exam Format: Multiple Choice Question (MCQ)
- Exam Questions: 25 Questions
- Exam Duration is: 90 Minutes
- Exam Pass Mark: 70%
- Exam Fees: Inclusive in the Course Fees
- Free Add-on: Free Membership access to KALAM Cybersecurity Collaboration & Community Skills Validation Platform

COURSE CONTENTS

Module 1: Introduction to R

- What is R ?
- Downloading and Installing R
- Introduction to the R UI
- Packages Management

Module 2: Data & Data Types in R

- Data Types
- Reading and Writing data
- Reading tabular data files
- Reading from csv files
- Creating a vector and vector operations
- Initializing a data frame
- Control structures
- Selecting data frames by position and name
- Changing directories

Module 3: Statistics in R

- Computing basic statistics
- Comparing means of two samples
- Testing a correlation for significance
- Testing a proportion
- Classical tests (t,z,F)
- Summarizing Data
- Cross tabulation

Module 4: R Data Visualization

- Creating a bar chart, dot plot
- Creating a scatter plot, pie chart
- Creating a histogram and box plot
- Other plotting functions
- Plotting with base graphics

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- Plotting with Lattice graphics
- Plotting and coloring in R

Module 5: Data Manipulation in R

- Appending data to a vector
- Combining multiple vectors
- List management
- Merging data frames
- Data transformation
- Strings and dates
- Outlier detection
- Handling NAs and Missing Values
- Matrices and Arrays
- Logical operations
- Relational operators
- Accessing Variables
- Matrix Multiplication and Inversion
- Managing Subset of data
- Character manipulation
- Data aggregation

Module 6: Functions and Programming in R

- Flow Control: For loop
- If condition
- While conditions and repeat loop
- Debugging tools
- Concatenation of Data
- Combining Vars, cbind, rbind
- Sapply, apply, tapply functions

Module 7: Statistical Modelling in R

- Simple linear regression
- Multiple Regression model
- Logistic regression
- Hierarchical Clustering
- K-Means Clustering
- PCA for Dimensionality Reduction