

R Programming

Duration: 3 Days

Prerequisites:

To successfully undertake training in the R Programming course with Koenig Solutions, students should meet the following minimum prerequisites:

- Basic understanding of programming concepts: While prior experience in R is not mandatory, familiarity with programming logic and constructs such as variables, loops, and conditional statements will be beneficial.
- Fundamental knowledge of statistics: As R is a language designed for statistical analysis, a grasp of basic statistical concepts will help students comprehend the course material more effectively.
- Proficiency in working with computers: Students should be comfortable with installing software and managing files and directories on their operating system (Windows, macOS, or Linux).
- Willingness to learn and solve problems: R has a steep learning curve, and students should be prepared to engage with new concepts and troubleshoot issues that may arise during the learning process.
- Basic mathematical skills: Understanding of high school level mathematics is recommended since the course involves concepts like distributions, hypothesis testing, and regression.
- English comprehension: As the course material is presented in English, a good command of the English language is necessary for following the lessons and understanding the course content.

Remember, these are the minimum requirements, and possessing additional skills in these areas will only enhance your learning experience. The R Programming course is designed to be accessible to those with a keen interest in data analysis and a dedication to learning.

Course Description:

The R Programming course is a comprehensive guide designed to introduce learners to the world of statistical programming and data analysis using the R language. This course aims to equip participants with the knowledge and skills needed to perform various statistical analyses and create compelling data visualizations. Chapter 1: Introducing R highlights the significance of R in data analysis, how to install it, and the benefits of obtaining an R programming certification. Chapter 2: Starting Out helps learners become comfortable with the basics of R syntax and commands. Chapter 3: Working with Objects dives into the core components of R's programming environment. Subsequent chapters progressively cover descriptive statistics, data distributions, hypothesis testing, and graphical analysis, providing robust R programming training. The course delves into complex statistical methods and data manipulation in Chapters 8 and 9, while Chapter 10: Regression teaches linear modeling techniques. Chapter 11: More About Graphs enhances visualization skills, and Chapter 12: Writing Your Own Scripts introduces programming concepts for script writing. Upon completion, learners will have a solid foundation in R, enabling them to analyze data effectively and build a professional portfolio to showcase their expertise.

Target Audience:

- Data Scientists and Analysts
- Statisticians
- Academic Researchers and Students in quantitative fields
- Business Analysts
- Machine Learning Engineers
- Software Developers interested in data science
- Bioinformaticians
- Economists
- Market Researchers
- Quality Analysts
- Anyone aspiring to gain insights from large datasets

Course Outlines:

- > CHAPTER 1 Introducing R: What is it and how to get it
- CHAPTER 2 Starting Out: Becoming Familiar with R
- > CHAPTER 3 Starting Out: Working with Objects
- > CHAPTER 4 Data: Descriptive Statistics and Tabulation
- > CHAPTER 5 Data: Distribution
- CHAPTER 6 Simple Hypothesis Testing
- CHAPTER 7 Introduction to Graphical Analysis
- CHAPTER 8 Formula Notation and Complex Statistics
- > CHAPTER 9 Manipulating Data and Extracting Components
- > CHAPTER 10 Regression (Linear Modeling)
- CHAPTER 11 More About Graphs
- > CHAPTER 12 Writing Your Own Scripts: Beginning to Program
- APPENDIX Answers to Exercises