



## Aspect Training

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YOUR COURSE, YOUR WAY - MORE EFFECTIVE IT TRAINING

# R Programming for Beginners

**Duration: 3 days**

## Overview:

Do you get overwhelmed by complicated lingo and want a course that is easy to follow, detailed and presented to make the process enjoyable?

If so, our "R Programming for Beginners" is THE course for you!

It covers the most essential topics you must learn to begin programming with R.

With more than two million global users, the R language is rapidly turning into a top programming language specifically in the space of data science as well as statistics. What you are going to learn on this course is how to master the fundamentals of the open-source programming language which includes vectors, data frames and lists.

## Prerequisites:

No prerequisites are required for this course

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## Topics:

### 1 - Introduction

A Brief History of R

What exactly is R Programming

What are the benefits of using R language

### 2 - Your First R Session

Entering Commands in the Console Window

Performing simple calculations

Using a Function

Storing calculated values

Sourcing a Script

### 3 - The R Syntax

Expressions

Constants

Arithmetic

Conditions

Function calls

Symbols

Keywords

Naming Variables

#### **4 - Effective use of Functions and Arguments**

Ways to vectorize Functions

Passing Arguments to Functions

Making your code plain and readable

#### **5 - Packages**

Finding R Packages

Installing a Package

Loading and unloading Packages

#### **6 - Working with numbers**

Arithmetic Operators

Using Mathematical Functions

Logarithms and Exponentials

Infinity Function

Dealing with lost values

#### **7 - Vectors**

Creating Vectors

Combining Vectors

Repeating Vectors

Getting values in and out of Vectors

The Indexing System

Extracting values from Vectors

Changing Vector values

#### **8 - Logical Vectors**

Comparing values

Vectors as Indices

Merging Logical statements

#### **9 - Character Vectors**

Creating and assigning Named Vectors

Manipulating text

Splitting text

Concatenating text

## **10 - Dates and Times**

Date Functions

Adding Time Details to Dates

## **11 - Combining Vectors into Matrix**

Creating a Matrix

Ways to combine Vectors into Matrix

Calculating with Matrices

## **12 - Data-Frames**

Building a Data-Frame from a Matrix

Other ways to create a Data-Frame

Manipulating Data Frame values

Extracting Data-Frame values

Assuming Data-Frames as a Matrix

## **13 - Lists**

Creating a List

Unnamed Lists

Named Lists

Combining Lists

## **14 - Scripts**

Creating a Script

Transforming a Script into a Function

Using the Function

Using Arguments, the smart way

The 'multiply' Argument

Default values

## **15 - Logical Flow**

If statements

If-Else statements

## **16 - Loops**

For Loop

Computing values in a For Loop

## **17 - Debugging your code**

Error Types

Interpreting warnings and errors

Browsing through a Function

## **18 - Getting Data in and out of R**

Entering Data in the Text Editor

Using the Clipboard

Importing Data

Exporting Data

## **19 - Processing Data**

Choosing the right Data-Structure

Basic Subset Operators

Specifying the Subset

Summarising your Data

Counting unique values

Preparing Data

## **20 - Working with Graphics**

Using Base Graphics

Creating Plots

Adding points to a Plot

Creating a Lattice Plot