

R & Python

Course Objective:

This course is designed for learners of Python. Emphasis will be placed on programming. Students of this course should have a basic knowledge of plotting, manipulating data, iterative processing, creating functions, applying functions on applications like excel or SAS.

Prerequisites: Any programming background is appreciated but not mandatory.

Learning Objectives:

- Install Python Software and packages
- import external forms of data
- data manipulation
- do iterative processing and simulate new data
- understand Python Functions

Contents:

Introduction to Python

- Installation of Python
- Packages in Python, Installing Packages,

Basic Operations in Python

- Programming Language Basics,
- Numbers , Strings Lists , Dictionaries , Tuples Files ,
- Exercise/Case Study

Data Manipulation in Python

- Conditional Processing,
- Loops, Iterations and other iterative processing ,
- Exercise/Case Study

Data manipulation in Python

- Functions , arguments and modules in Python
- Transforming Variables, , Exercise/Case Study

Overview of Python Packages/Libraries

- Popular Python Packages/Libraries
- Overview of Python application in analytics industry

Analytics with R-Software

Course Objective:

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Prerequisites: Any programming background is appreciated but not mandatory.

Learning Objectives:

- Install R Software and packages
- import various forms of data
- subset and merge data tables
- do iterative processing and simulate new data
- create new variables and functions
- create and enhance plots of all types
- apply descriptive and inferential procedures including regression, logistic regression, analysis of variance,
 - Stepwise model selection
- Performing Common Machine learning in R
- Exploring Advance Machine learning with R

Contents:

Introduction to R

- Installation of R-Studio,
- Packages in R, Installing Packages,
- Setting Directories

Basic Operations in R

- Programming Language Basics,
- Scalars, Vectors, Simple Calculations Data Structure,
- Data Frames, Exercise/Case Study

Data manipulation in R

- Data Acquisition(Import & Export),
- Sub-setting observations,Subsetting variables,
- Transforming Variables, Renaming and Recoding Variables, Exercise/Case Study

Data Manipulation in R

- Conditional Processing,
- Missing Values, Merging and Concatenating Datasets,
- Exercise/Case Study

