|  |  |
| --- | --- |
| **DAY** | **TOPIC** |
| **Day-1** | **Overview of R Programing. Why R Programing?** |
| R Programing Environment setup |
| R - Reserved Words |
| R - Data Types |
| R - Variables and Constants |
| R – Operators |
| R - Programming if...else |
| R - Programming for loop |
| R - while Loop |
| R - break & next |
| R - repeat Loop |
| **Day-2** | **R – Functions** |
| Function Return Value |
| R - Environment & Scope |
| R - Recursive Function |
| R - Switch Function |
| R - String Handling |
| **Day-3** | **R – Vectors** |
| R – Lists |
| R – Matrices |
| R – Arrays |
| R – Factors |
| R - Data Frames |
| R – Packages |
| R - Data Reshaping |
| **Day-4** | **R Data Import/Export (ETL)** |
| R - CSV Files |
| R - Excel Files |
| R - Binary Files |
| R - XML Files, JSON |
| R - Web Data |
| R – Database |
|  | **Review & Test-1** |
| **Day-5** | **My SQL Server - Database Envrionment** |
| DDL Statement |
| DML Statement |
| Where clause, Operator |
| Order By |
| Function |
| Group By, Having |
| **Day-6** | **Data type** |
| Constrains/Integrity |
| Subquery |
| Union |
| Join |
| **Day-7** | **R Basic Data Visualization** |
| R - Pie Charts |
| R - Bar Charts |
| R – Boxplots |
| R – Histograms |
| R - Line Graphs |
| R – Scatterplots |
| **Day-8** | **R Advanced Data Visualization** |
| Heat Map |
| Mosaic Map |
| Map Visualization |
| 3D Graphs |
| Correlogram |
|  | **Review & Test-2** |
| **Day-9** | **Statistics** |
| R - Mean, Median & Mode |
| R - Linear Regression |
| R - Multiple Regression |
| R - Logistic Regression |
| **Day-10** | **R - Normal Distribution** |
| R - Binomial Distribution |
| R - Time Series Analysis |
| **Day-11** | **R Statistics – Extended** |
| R - Nonlinear Least Square |
| R - Decision Tree |
| R - Random Forest |
| R - Survival Analysis |
| R - Chi Square Tests |
|  | **Review & Test-3** |
| **Day-12** | **R Text Mining** |
| Loading Texts |
| Preprocessing |
| Stage the Data |
| Explore your data |
| Focus! |
| Word Frequency |
| Plot Word Frequencies |
| **Day-13** | **Relationships Between Terms** |
| Term Correlations |
| Word Clouds! |
| Clustering by Term Similarity |
| Hierarchal Clustering |
| K-means clustering |
|  | **Review & Test-4** |