theknowledgeacademy

Data Science Expert Package

New York - San Francisco - London - Sydney - Dubai - Singapore - Vancouver - Bangalore

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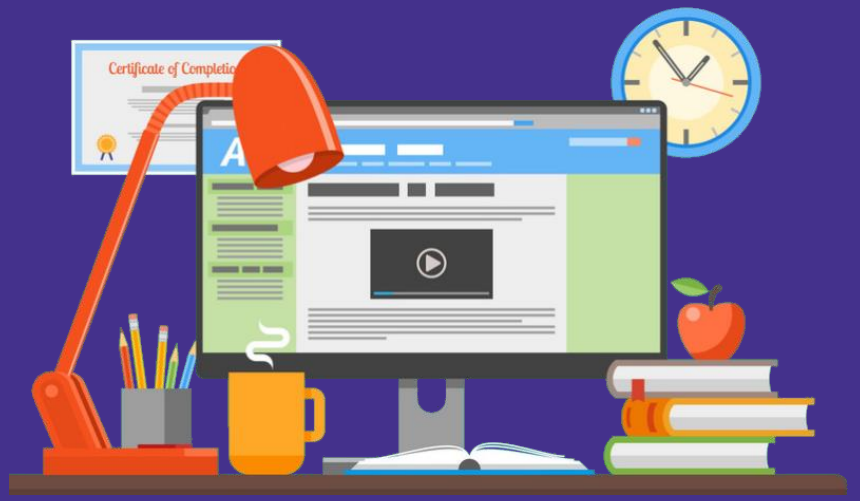
Contents



Our Expert Package

Below is the type of packages containing multiple courses delivered as Online Instructor-led and Online self-paced. When buying this package, you'll get an additional cost benefit on the purchase price.

POPULAR

Data Science Expert Package

10 courses

Included courses

- Python Data Science Training
- Python with Machine leaning
- Data Science With R
- Microsoft Power BI Masterclass
- Deep Learning with Tensorflow Training
- Data Analysis Training Using MS Excel
- Advanced SQL
- Python Programming Training
- Tableau Training
- Probability And Statistics For Data Science Training

Courses

Below are the courses cover in this Data Science Expert Package.

- **Course 1: Python Data Science Training**
- **Course 2: Python with Machine Learning**
- **Course 3: Data Science With R**
- **Course 4: Microsoft Power BI Masterclass**
- **Course 5: Deep Learning with Tensorflow Training**
- **Course 6: Data Analysis Training Using MS Excel**
- **Course 7: Advanced SQL**
- **Course 8: Python Programming Training**
- **Course 9: Tableau Training**
- **Course 10: Probability And Statistics For Data Science Training**

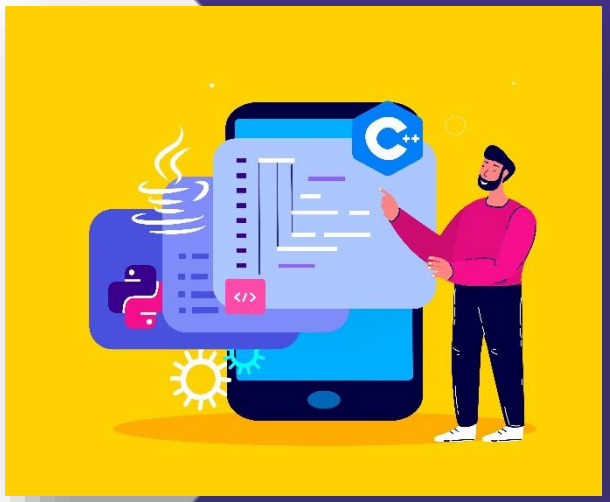
Course 1

Python Data Science Training Course Outline

Module 1

Introduction of Python

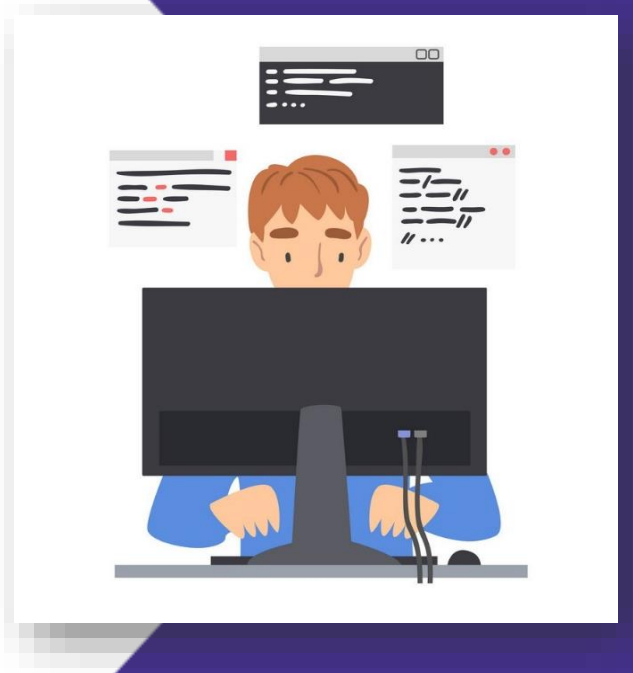
- What is Python?
- What can be Done by Using Python Programming Language?
- Why Python?



Module 2

Working with IPython

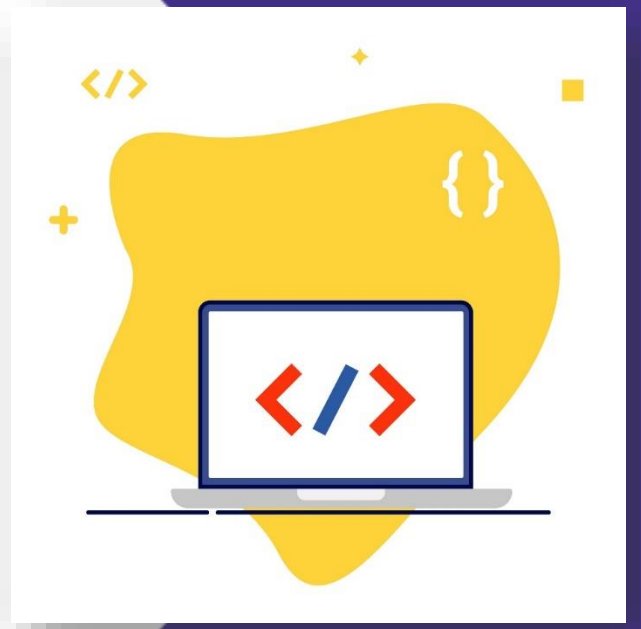
- Launching IPython Shell and Jupyter Notebook
- Keyboard Shortcuts in the IPython Shell
- Special Commands of Python
- IPython's In and Out Objects
- IPython and Shell Commands
- Errors and Debugging
- Profiling and Timing Code



Module 3

Introduction to NumPy

- Understand Data Types in Python
- NumPy Arrays
- Universal Functions
- Aggregations: Min, Max, and More
- Computation on Arrays: Broadcasting
- Comparison, Boolean Logic, and Masks
- Fancy Indexing
- Sorting Arrays
- NumPy's Structured Array



Module 4

Working with Pandas

- Installing and Using Pandas
- Pandas Objects
- Data Indexing and Selection
- Operating on Data in Pandas
- Handling Missing Data
- Hierarchical Indexing
- Concat and Append
- Merge and Join
- Aggregations and Grouping
- Pivot Tables
- Vectorised String Operations
- Working with Time Series
- eval() and query()

Module 5

Visualisation with Matplotlib

- Overview of Matplotlibs
- Object-Oriented Interface
- Two Interfaces
- Simple Line Plots and Scatter Plots
- Visualising Errors
- Contour Plots
- Histograms, Binnings, and Density
- Customising Plot Legends
- Customising Colorbars
- Multiple Subplots
- Text Annotation
- Three-Dimensional Plotting in Matplotlib
- Visualisation with Seaborn

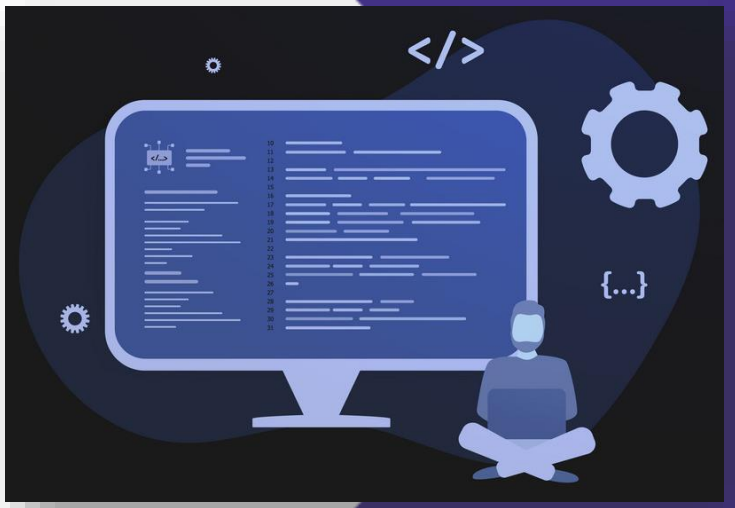
Course 2

Python with Machine Learning Course Outline

Module 1

Introduction to Python

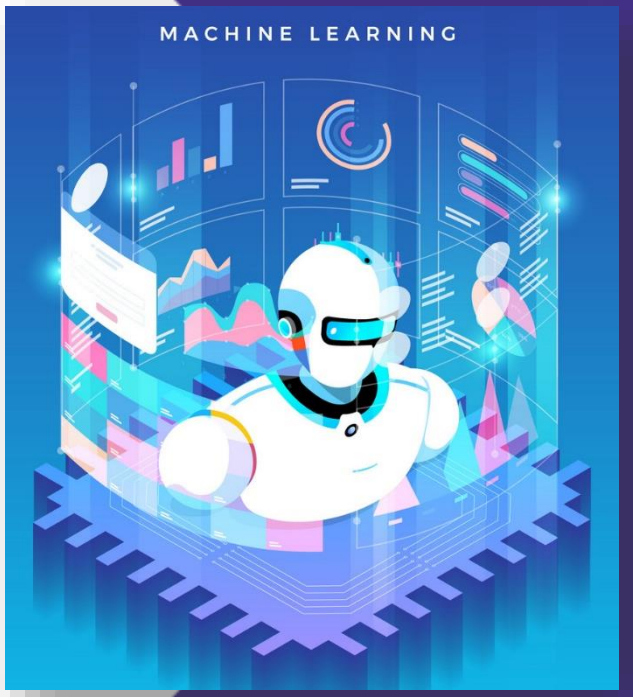
- What is Python?
- Python Syntax
- Control Flow Tools
- Defining Functions
- Modules
- Input and Output



Module 2

Basics of Machine Learning

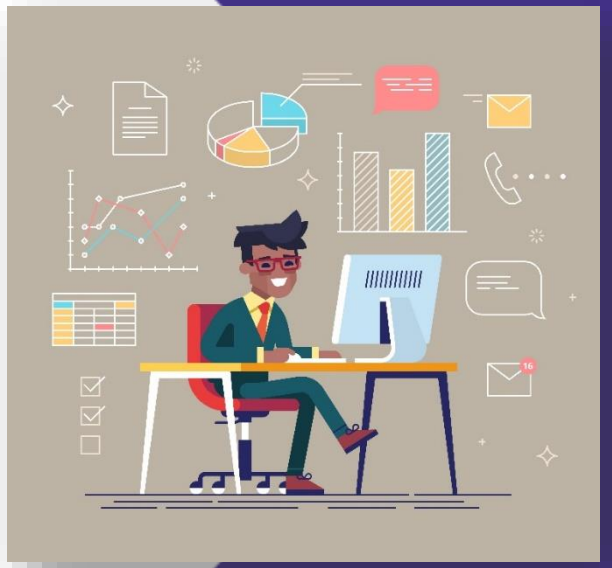
- Introduction to Machine Learning
- Benefits of Machine Learning
- Supervised Machine Learning
- Unsupervised Machine Learning
- Reinforcement Machine Learning



Module 3

Data Sets of Python

- Structured Data Sets
- Unstructured Data Sets
- How to Manage the Missing Data?
- Splitting Your Data
- Training and Testing Your Data



Module 4

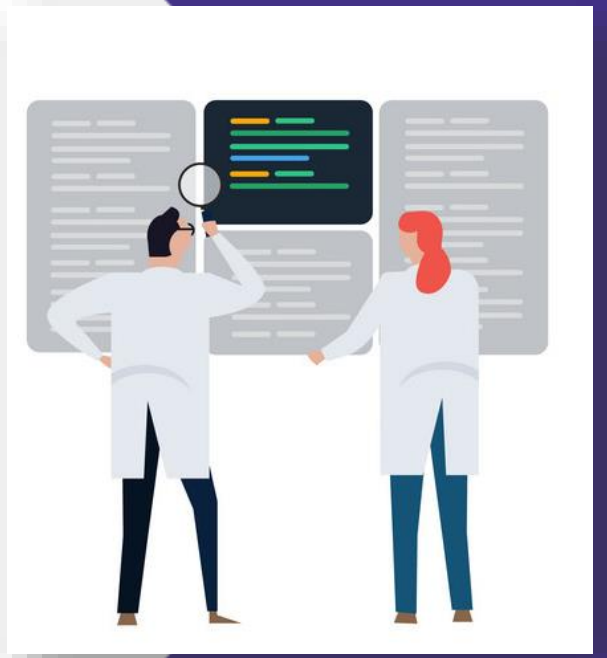
Supervised Learning with Regressions

- Linear Regression
- Cost Function
- Using Weight Training with Gradient Descent
- Polynomial Regression

Module 5

Regularisation

- Types of Fitting with Predicted Prices
- How to Detect Overfitting?
- How to Fix Overfitting?



Module 6

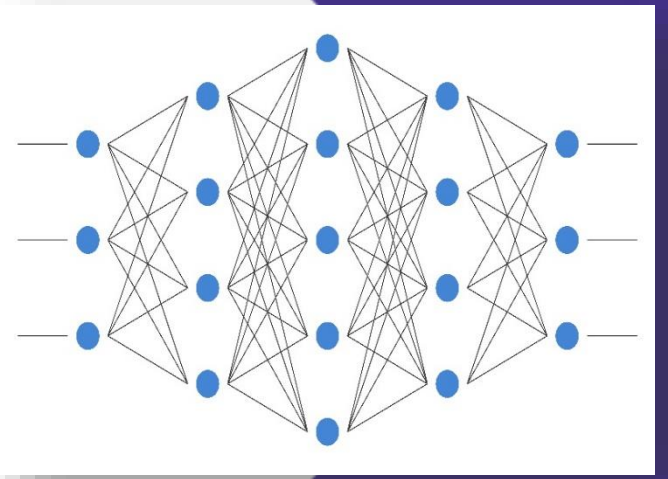
Supervised Learning with Classification

- Logistic Regression
- Multiclass Classification

Module 7

Non-linear Classification Models

- K-Nearest Neighbor
- Decision Trees and Random Forests
- Working with Support Vector Machine
- Neural Networks



Module 8

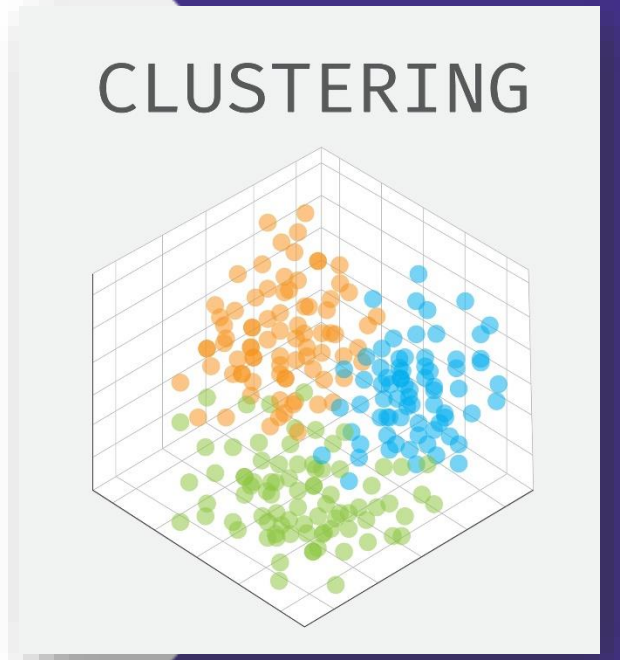
Validation and Optimisation Techniques

- Cross-Validation Techniques
- Hyperparameter Optimisation
- Grid and Random Search

Module 9

Unsupervised Machine Learning with Clustering

- K-Means Clustering
- Hierarchal Clustering
- DBSCAN



Module 10

Reduction of Dimensionality

- Principal Component Analysis
- Linear Discriminant Analysis
- Comparing PCA and LDA

Course 3

Data Science With R Course Outline

Module 1

Introduction to Data Mining

- Data Science
- Knowledge Discovery in Databases (KDD)
- Model Types
- Classification of Data Mining Methods
- Applications
- Challenges
- R Programming Language
- Basic Concepts, Definitions, and Notations
- Tool Installation

Module 2

Introduction to R

- Data Types
- Basic Tasks
- Control Structures
- Functions
- Scoping Rules
- Iterated Functions
- Console and Package Installation

Module 3

Types, Quality, and Data Pre-processing

- Categories and Types of Variables
- Pre-Processing Processes
  - Data Cleansing
  - Data Unification
  - Data Transformation and Discretisation
  - Data Reduction
- dplyr and tidyr Packages

Module 4

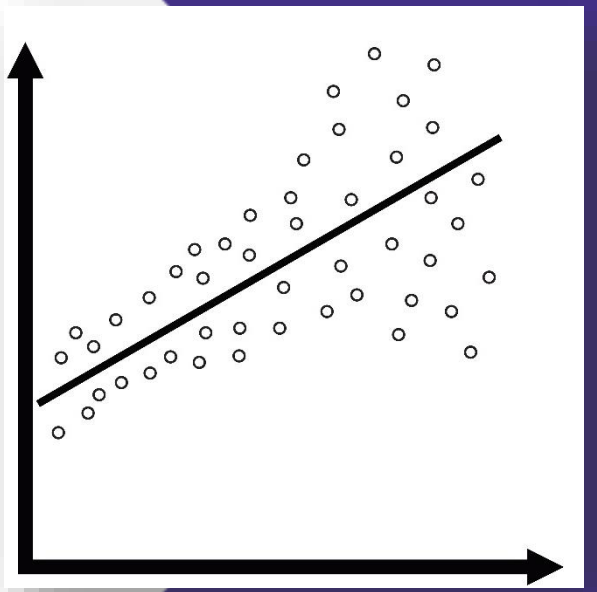
Summary Statistics and Visualisation

- Measures of Position
- Measures of Dispersion
- Visualisation of Qualitative Data
- Visualisation of Quantitative Data

Module 5

Classification and Prediction

- Classification
- Prediction
  - Classification Vs Prediction
  - Linear Regression
  - Learning Parameter
- Overfitting and Regularisation
  - Overfitting
  - Model Regularisation
  - Linear Regression with Normalisation



Module 6

Clustering

- Unsupervised Learning
- Cluster
- k-Means Algorithm
- Hierarchical Clustering Algorithms
- Hierarchical Clustering Algorithms

Module 7

Mining of Frequent Itemsets and Association Rules

- Introduction
- Apriori Algorithm
- Frequent Itemsets Types
- Positive and Negative Border of Frequent Itemsets
- Association Rules Mining
- Alternative Methods for Large Itemsets Generation
- FP-Growth Algorithm
- Arules Package

Module 8

Computational Methods for Big Data Analysis

- Introduction to Hadoop
- Advantages of Hadoop's Distributed File System
- Hadoop Users
- Hadoop Architecture
- Hadoop Cluster Architecture
- Hadoop Java API
- Lists Loops, Generic Classes, and Methods

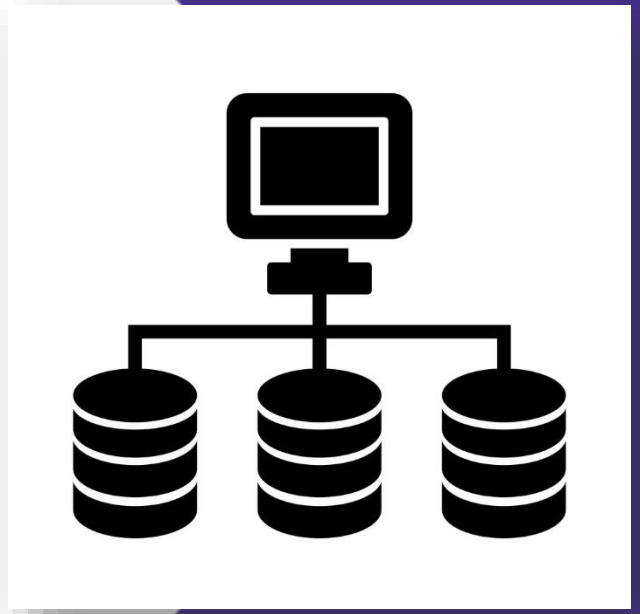
Course 4

Microsoft Power BI Masterclass Course Outline

Module 1

Introduction to Power BI

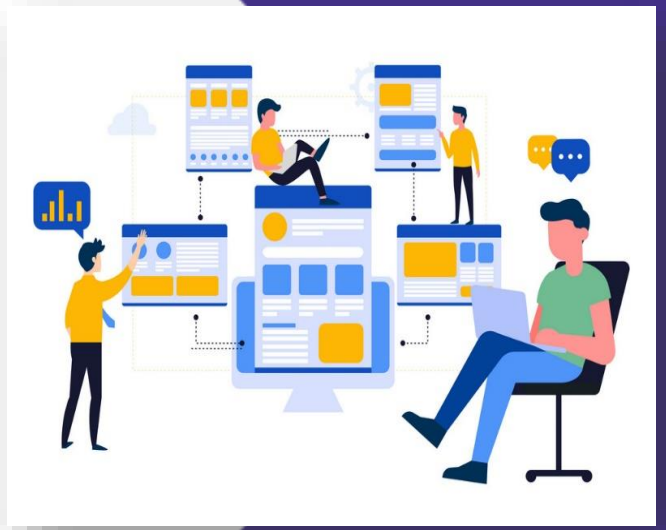
- What is Power BI?
- Power BI Service
- Power BI Report Server
- Power BI Desktop
- Reports and Dashboards
- DataSets
- Row-Level Security
- Content Packs
- Natural Language Queries



Module 2

Data Sources

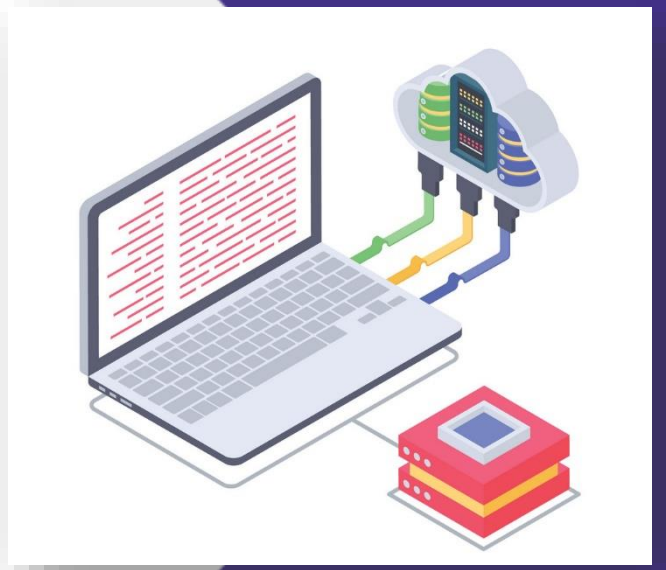
- Connecting to Files
- Importing Excel Files
- Publishing Power BI from Excel
- Updating Files in Power BI
- Data Refresh
- Power BI Data Model
- Managing Data Relationships
- Optimising the Model for Reporting
- Hierarchies and SQL Servers
- R-Script Data Connector
- Configuring Data for Q and A
- Creating Content Packs and Group



Module 3

Shaping and Combining Data

- Shaping and Combining Data
- Query Editor
- Shaping Data and Applied Steps
- Advanced Editor
- Formatting Data
- Transforming Data
- Combining Data



Module 4

Modelling Data

- What are the Relationships?
- Viewing Relationships
- Creating Relationships
- Cardinality
- Cross Filter Direction
- What is DAX?
- Syntax
- Functions
- Row Context
- Calculated Columns
- Calculated Tables
- Measures

Module 5

Interactive Data Visualisations

- Page Layout and Formatting
- Multiple Visualisations
- Creating Charts
- Using Geographic Data
- Histograms
- Power BI Admin Portals
- Service Settings
- Desktop Settings
- Dashboard and Report Settings

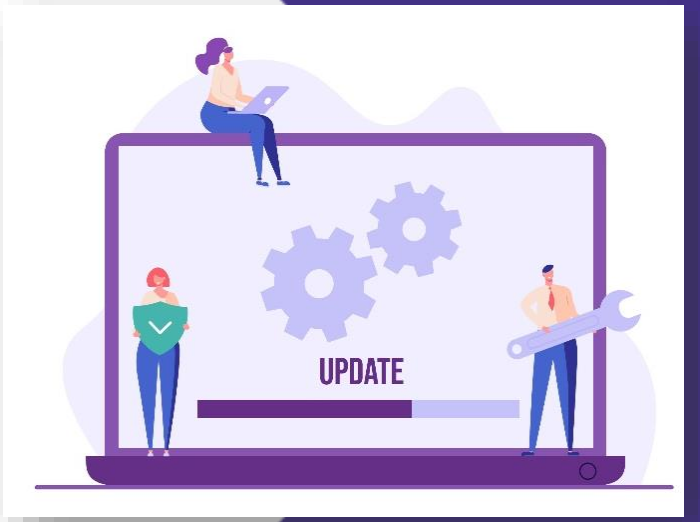
Course 5

Deep Learning with Tensorflow Training Course Outline

Module 1

Introduction to TensorFlow

- Tensors
- TensorFlow
- Installation of TensorFlow
- Two Computation Phrases
- Variables
- Operations
- A Computational Graph with TensorBoard
- Linear Regression



Module 2

Artificial Neural Network

- Introduction
- Characteristics of Artificial Neural Network

Module 3

Activate Functions

- Introduction Activation (Transfer) Functions
- Types of Activate Functions
  - Unit Step (Threshold)
  - Sigmoid
  - Piecewise Linear
  - Gaussian
  - Linear

Module 4

Deep Learning Techniques

- Introduction
- Convolutional Neural Networks
- Recurrent Neural Networks

Module 5

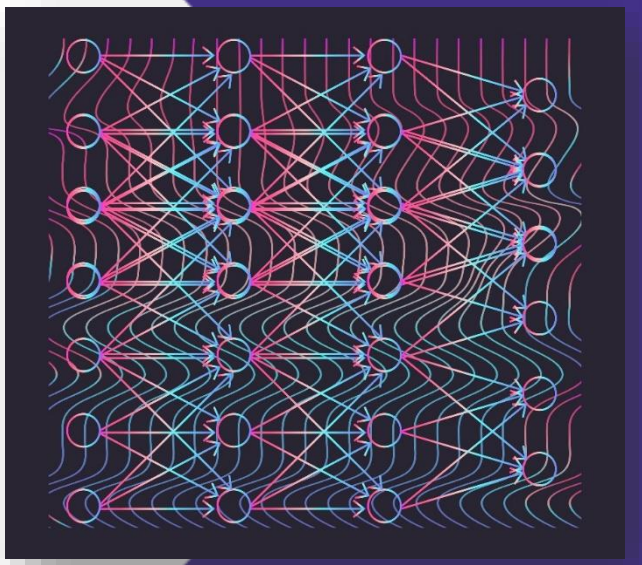
Deep Learning Applications

- Applications of Deep Learning

Module 6

Computing Gradients

- Introduction
- Steps for Computing Gradients



Module 7

Single-Layer and Multi-Layer Perceptron

- Perceptron
  - Single-Layer Perceptron
  - Multi-Layer Perceptron (MLP)

Course 6

Data Analysis Training Using MS Excel Course Outline

Module 1

Overview of Data Analysis

- What is Data Analysis?
- Why Data Analysis?
- Types of Data Analysis
- Data Analysis Process

Module 2

Introduction to Data Analysis with MS Excel

- Steps to Analyse Data

Module 3

Work with Range Names

- Steps to Create Name Range
- How to Rename Range Name?
- How to Delete Range Name?
- Use Name Range in Workbook

Module 4

Introduction to Tables

- What is a Table?
- What is the Purpose of Making Table?

Module 5

Cleaning Data with Text Functions

- Overview
- Removing Unwanted Characters from the Text
- Steps for Data Cleaning

Module 6

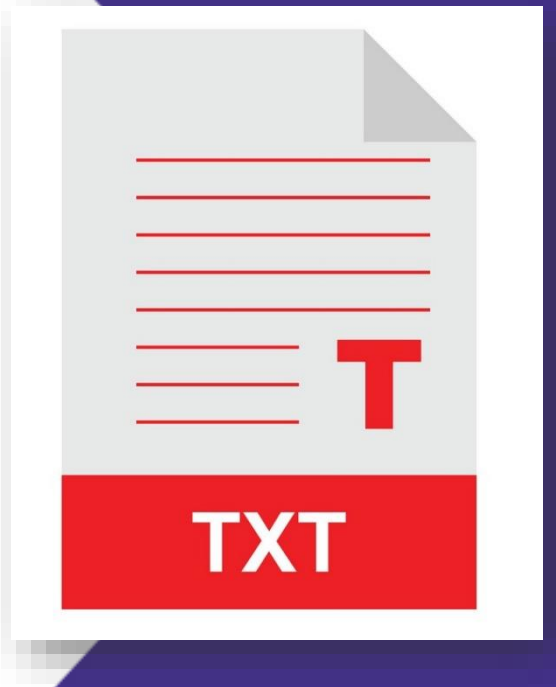
Working with Date Formats and Time Formats

- Steps to Change Data Format
- Steps to Change Time Format

Module 7

Conditional Formatting

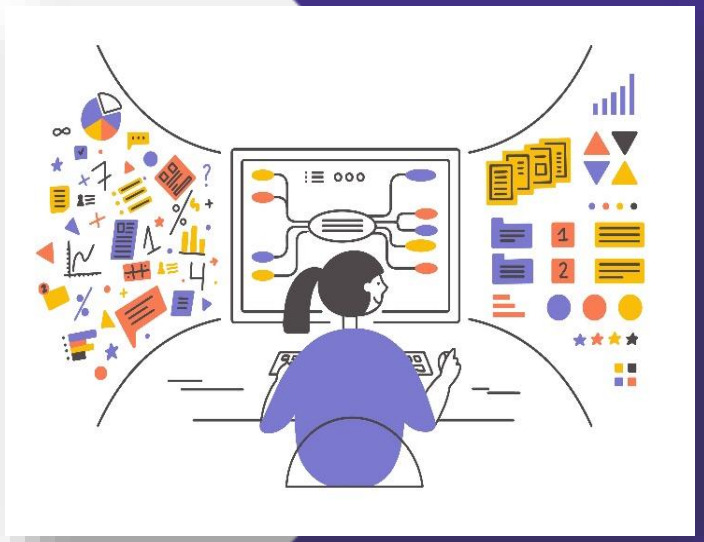
- What is Conditional Formatting and How to Use It?
- Apply Conditional Formatting on Text



Module 8

Sorting and Filtering

- What is Sorting and Filtering?
- Sort a Particular Column
- Applying Sorting on Two Columns
- Steps to Sort Dates
- Steps to Sort Columns by Colours
- Apply Filtering
- Clear Filter
- Apply Filter on Text



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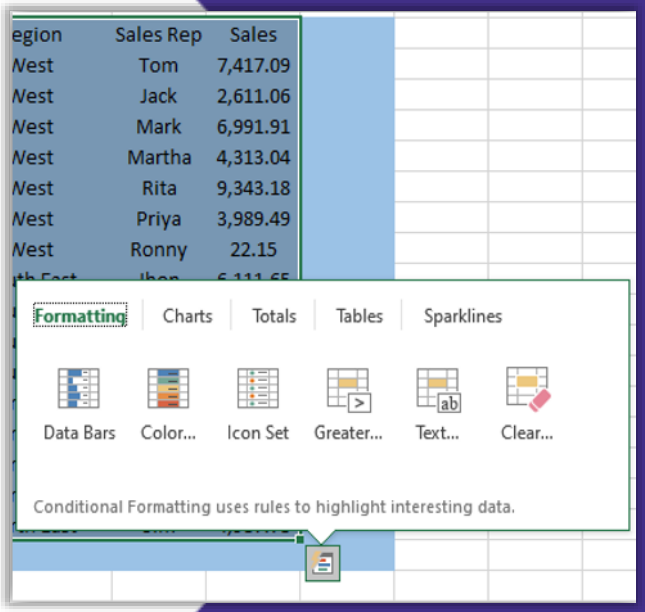
Module 9

Subtotals and Quick Analysis

- Subtotals
- Steps to Apply Subtotals
- Quick Analysis
- Steps to Use Quick Analysis



Module 10

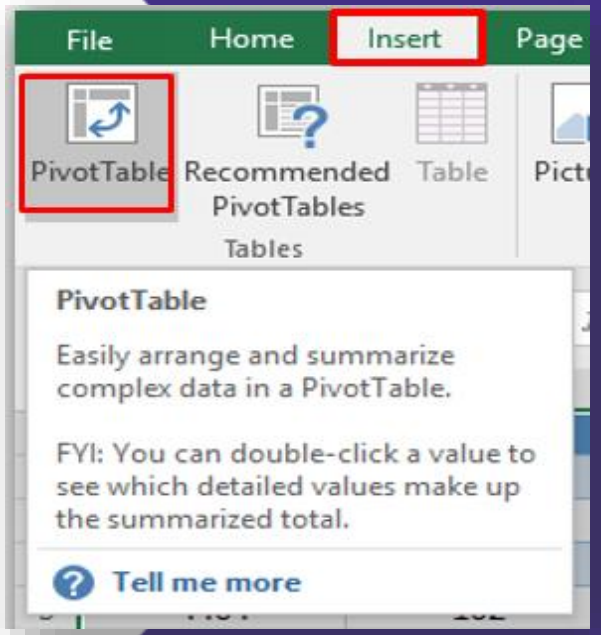
Exploring Lookup Functions

- VLookUp Functions in Excel
- HLookUp Functions in Excel

Module 11

Working with Pivot Tables

- Pivot Table Overview
- Creating a Pivot Table
- Pivot Table Fields
- Add Data Fields in Pivot Table
- Remove Data Fields in Pivot Table
- Pivot Table Areas
- Exploring Data
- Sorting Data
- Filtering Data
- Manual Filter
- Nesting
- Report



Module 12

Data Visualisation and Validation

- Data Validation
- Editing Data Validation Rules
- Copy Data Validation from One Cell to Another
- Data Visualisation

Module 13

Financial Analysis

- Overview
- Present Value of a Series of Future Payments
- Example of Financial Analysis

Module 14

Multiple Sheets

- Overview
- Steps to Insert New Worksheet
- Copy a Workbook
- Rename a Worksheet
- Steps to Group the Worksheets
- Steps to Ungroup the Worksheets

Module 15

Formula Auditing

- Show Formulas
- Trace Precedents
- Remove Arrows
- Trace Dependents
- Evaluate Formula

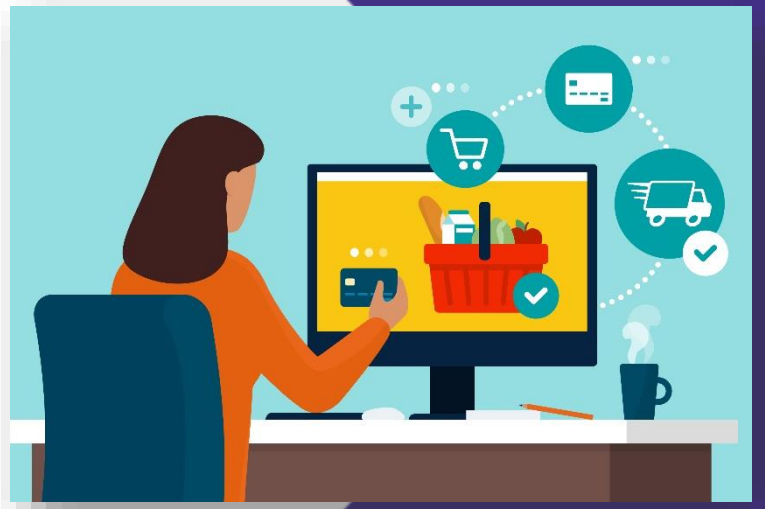
Course 7

Advanced SQL Course Outline

Module 1

Table Structure

- Objects Under the Customer Orders Database
- Creating a Table from the Object Explorer
- Customer Table with Customer ID as Primary Key
- Click Refresh Under Tables
- Supplier, Order, and Product Table
- Order_Details Table
- Data for CUSTOMER Table
- Data for SUPPLIER Table
- Data for Product Table
- Data for ORDERS Table
- Data for Order_Details



Module 2

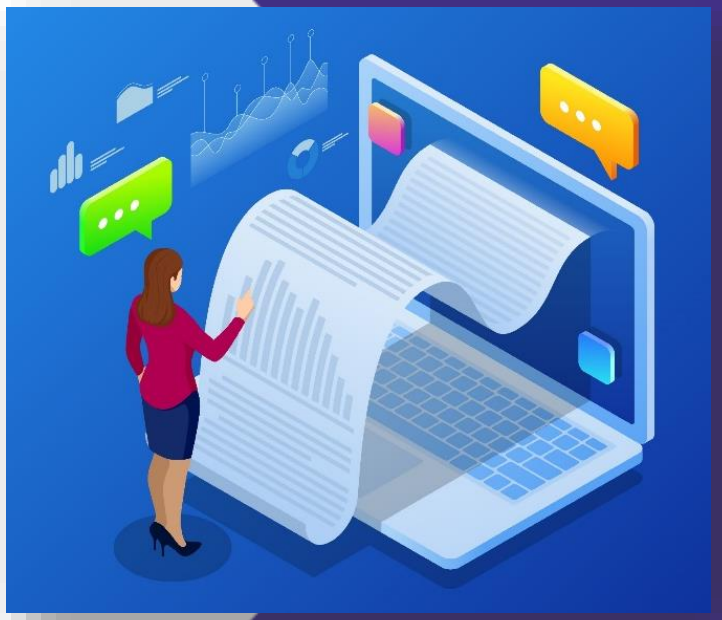
Subqueries

- Overview
- Using ALL, ANY, and IN
- Correlated Subqueries
- Using EXISTS

Module 3

DCL and TCL

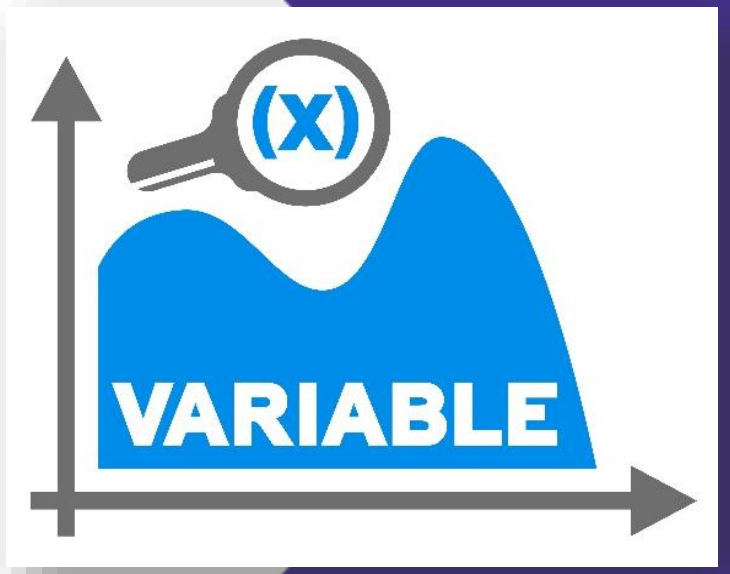
- Overview of DCL
- Commands
- Privileges and Roles
- Basic Transactions
- Rolling Back



Module 4

Variables

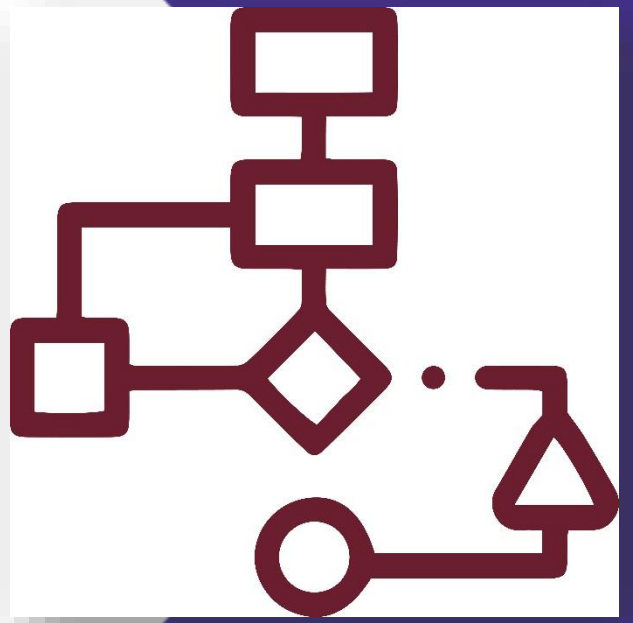
- Declaring Variables
- SET Versus SELECT
- Tricks with Variables and Rowsets
- Global Variables



Module 5

Testing Conditions and Looping

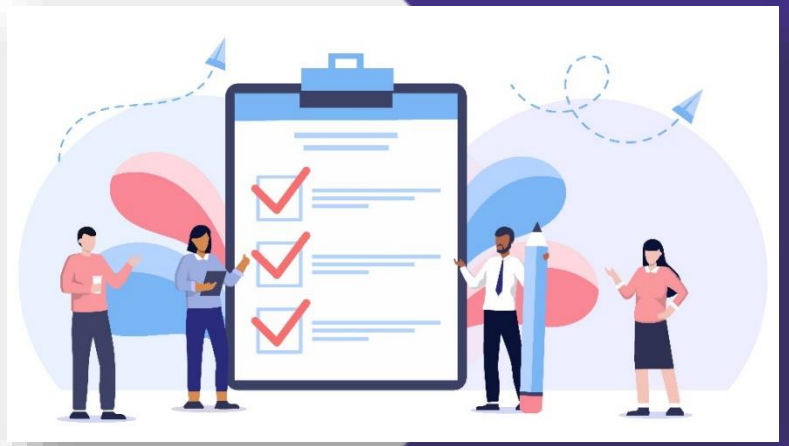
- IF/ELSE Statement
- Using CASE Where Possible
- Syntax of WHILE
- Sys. Objects
- Dropping Objects



Module 6

Rules and Stored Procedure Basics

- Creating a Rule with a List and Range
- Creating Stored Procedures
- Three Ways to Execute
- Stored Procedures with Parameters
- Pros and Cons of Stored Procedures
- System Stored Procedures



Module 7

Parameters and Return Values

- Default Values
- Output Parameters
- Using RETURN

Module 8

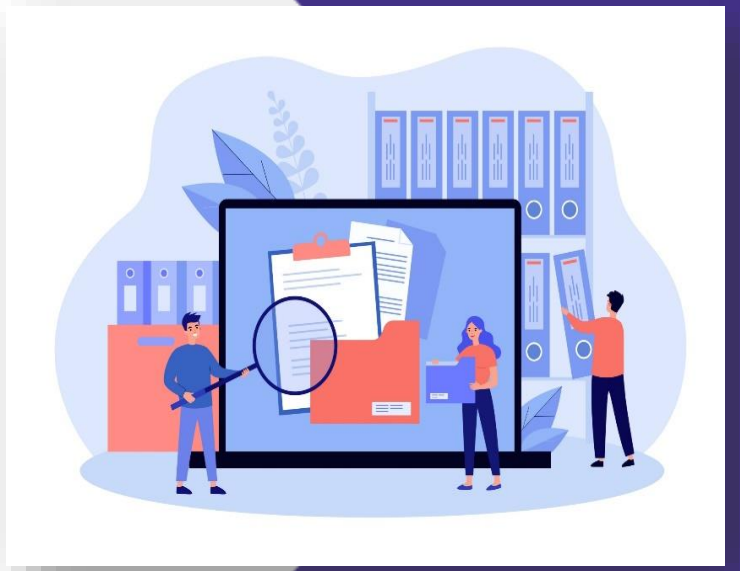
Cursors

- Overview
- Life Cycle of Cursor
- Type of Cursor
- Forward Only Cursor
- Displaying All Records Using a Cursor
- Scroll Cursor
- Syntax of Fetching Rows

Module 9

Triggers and Avoiding Scalar Functions

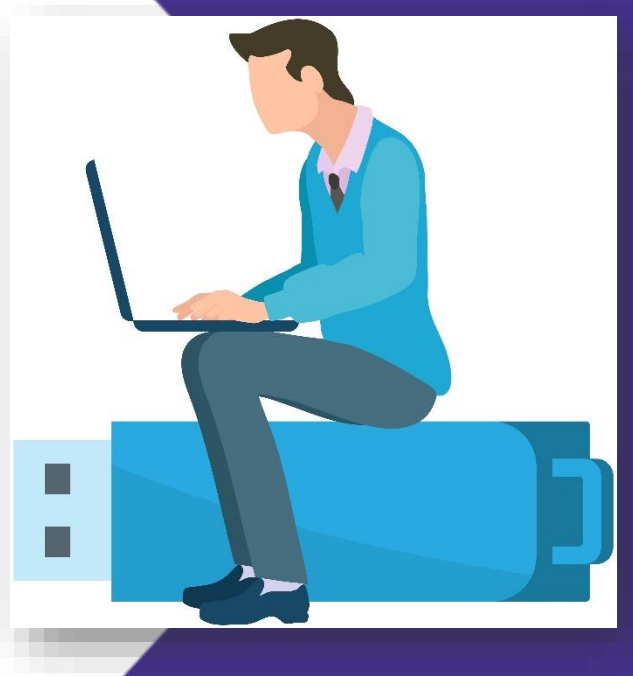
- Triggers Overview
- Difference Between Stored Procedure and Triggers
- Types of Triggers
- Scalar Functions
- Advantages and Disadvantages



Module 10

Temporary Tables and Table Variables

- Using Temporary Tables
- Creating Table Variables
- Pros and Cons of Each Approach



Module 11

Table Valued Functions

- In-Line Table-Valued Functions
- Multi-Statement Table-Valued Functions
- Limitations of User-Defined Functions

Module 12

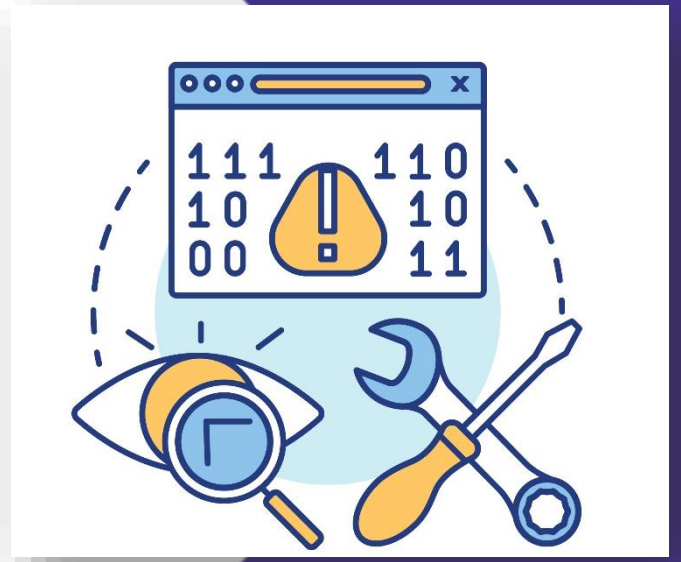
Derived Tables and CTEs

- Using Derived Tables
- Common Table Expressions (CTEs)

Module 13

Error-Handling and Debugging

- Using TRY/CATCH
- System Error Functions
- Custom Error Messages
- Obsolete @@Error Function
- SQL Server Debugger



Course 8

Python Programming Training Course Outline

Module 1

Introduction to Python

- Naming Python
- Why Use Python?
- Python Platform
- Python Flavours
- Python Today
- Python Installation
- IDLE – Simple IDE
- Writing a Program
- Using Script Mode
- PyDev Eclipse

Module 2

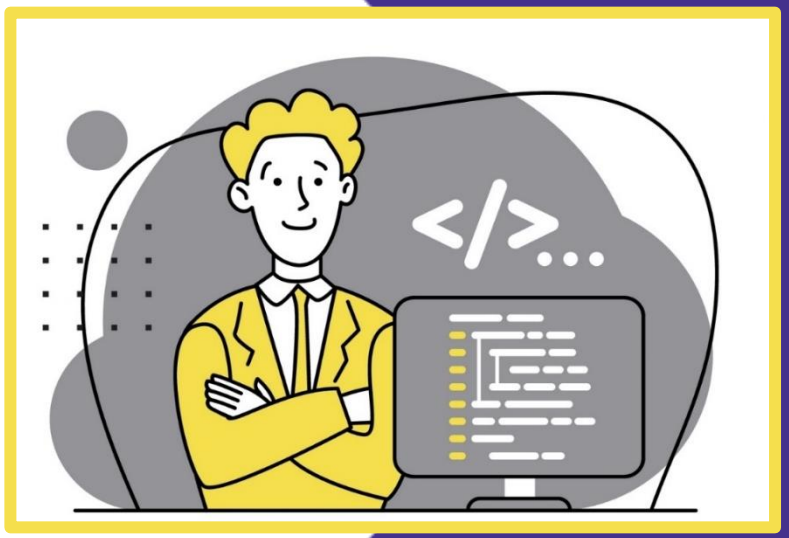
Python Basics

- Statements
- Blocks
- Understanding and Creating Variables
- Input () Function
- Variable Assignment
- Data Types
- Numbers
- Numeric Operators
- Augment Numeric Operators
- Strings
- Sequence Array

Module 2

Python Basics

- String Indexes
- String Operators
- Tuple and List Operators
- List Assign Element
- Set Operators
- Dictionary Operators
- Comparison Operators
- Element Comparison
- Logical Expression



Module 3

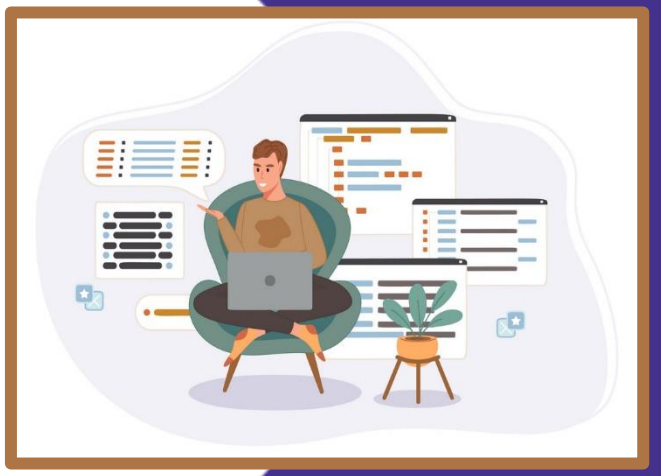
Flow Control and Functions

- IF Statement
- ELIF
- Function
- Useful String Methods
- Conversion Functions
- Specific Functions for Lists
- Dictionary Specific Methods
- Sets Specific Methods-
- Sorting Data and Complex Sorting
- Range
- Loops
- Iterators
- Generators

Module 4

Python Programming

- Functions in Python
- Namespaces
- Scopes
- Parameters
- Map () Function
- Modules and Packages
- Random Numbers
- Date and Time
- Exception
- Introducing the Handle It Program
- Regular Expression



Module 5

Software Objects

- Object-Oriented Programming
- Creating Classes, Methods, and Objects
- Introducing the Simple Critter Program
- Defining a Class
- Defining a Method
- Instantiating an Object
- Invoking a Method
- Using Constructors
- Creating a Constructor
- Creating Multiple Objects
- Access Object
- Destroy Objects

Module 6

Class Attributes and Inheritance

- Using Class Attributes and Static Methods
- Creating a Class Attribute
- Creating a Static Method
- Class Vs Object Method
- Class Built-in Attributes
- Printing an Object (How?)
- Class Inheritance
- Overloading and Overriding
- Encapsulation: 'setter' and 'getter'
- What is the Output?

Module 7

File I/O Operations

- Selected Binary File Access Modes
- Text Files
- Files and Directories
- CSV Files
- Path for Windows
- CSV Headers
- JSON Files
- JSON Data Type
- Python PIP

Module 8

Database

- SQL Language
- Database Connection
- NoSQL Database
- Database Lab
- Sqlite3 Lab

Module 9

Web Development

- Django Tutorials
- Creating a Project
- Using PyCharms
- Boot Up your Webserver
- Browse your Website
- Create your First App
- Create urls.py in Staff App
- Modify Views.py
- Database Setup

Module 10

Introduction to Django Framework

- How to Create Django Superuser Password?
- Modify models.py
- Changing the setting.py
- Migrate the Classes to the Database
- Dealing with the Database
- Working with admin.py
- Add New App to Staff
- Views.py
- Publications Update
- REST API Model
- Change in setting.py
- Models.py
- Admin.py
- Add the Stocks from Admin App

Module 11

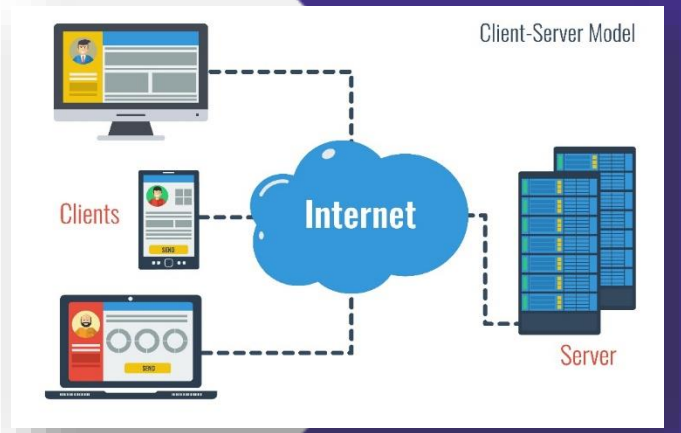
Socket Overview

- Introduction to TCP/IP Networking
- Network Layering
- Inter-Layer Relationships
- TCP/IP Layering Model
- TCP/IP Components
- IP Characteristics
- UDP Characteristics
- TCP Characteristics

Module 12

Client/Server Concepts

- Client/Server Concepts
- Connectionless Services
- Connection-Oriented Services
- Socket Programming-1
- Socket Programming-Telnet
- World's Simplest Web Browser
- Retrieving an Image over HTTP



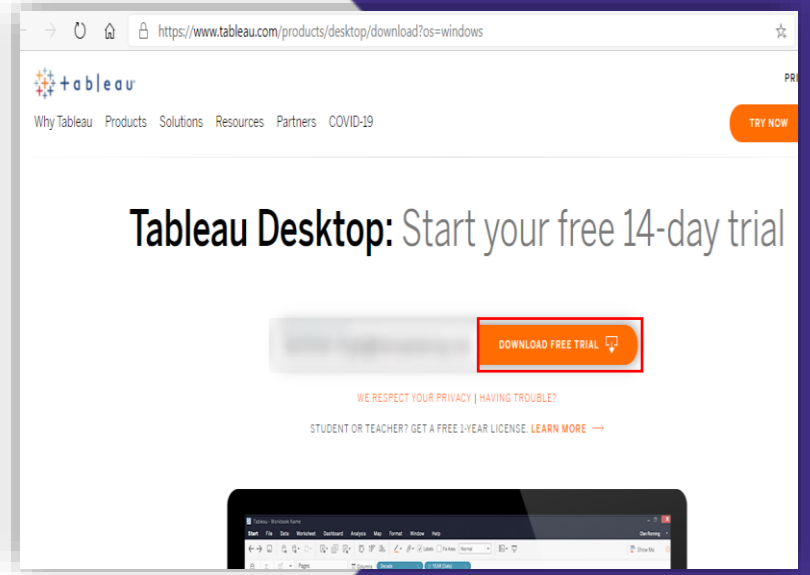
Course 9

Tableau Training Course Outline

Module 1

Introduction to Tableau

- What is Tableau?
- Environment Setup of Tableau
- Get Started with Tableau
- Tableau Design Flow
- Tableau File and Data Types
- Data Visualisation



Module 2

Tableau Architecture

- Overview
- Components of the Tableau Architecture

Module 3

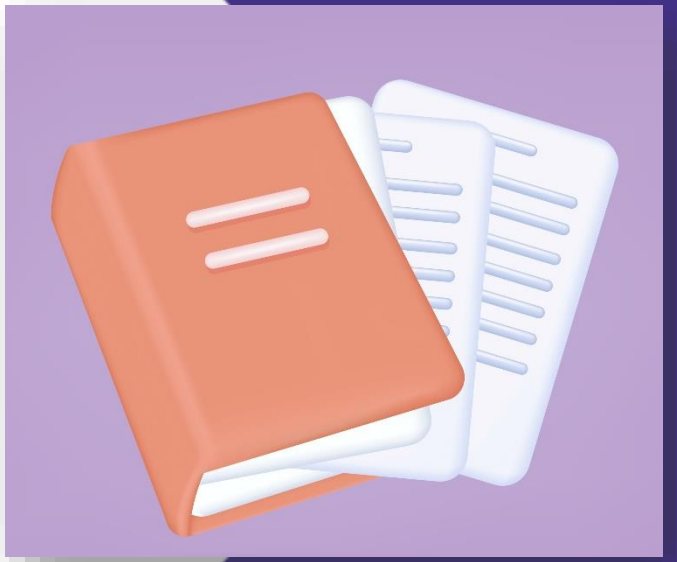
Tableau Data Sources

- Custom Data View
- Extracting Data
- Fields Operations
- Editing Metadata
- Data Joining and Blending

Module 4

Tableau Worksheets

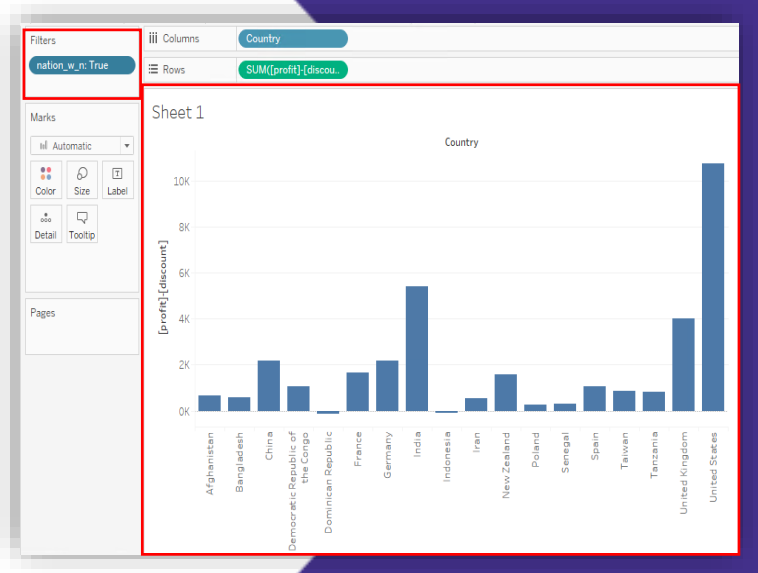
- Adding Worksheet
- Renaming Worksheet
- Save and Delete Worksheet
- Paged Workbook



Module 5

Tableau Calculations

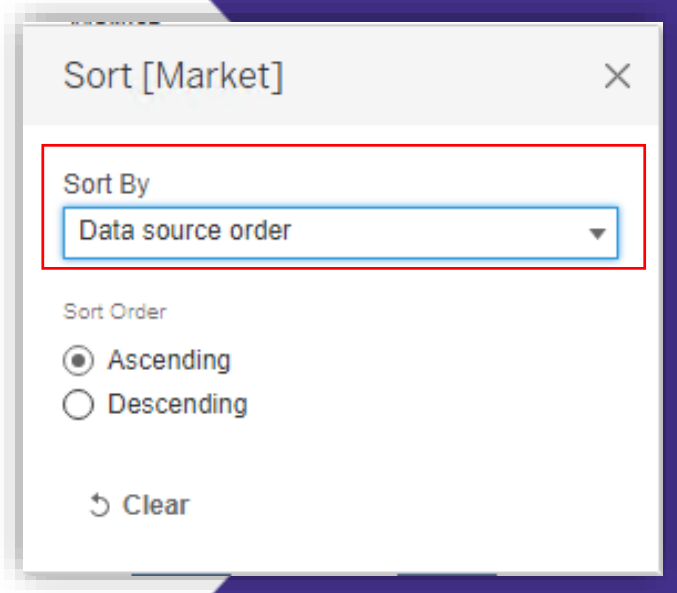
- Operators
- Functions
- Numeric Calculations
- String Calculations
- Date Calculations
- Table Calculations
- LOD Calculations



Module 6

Tableau Sort and Filters

- Basic Sorting and Filters
- Quick Filters
- Context Filters
- Condition Filters
- Top Filters
- Filter Operations



Module 7

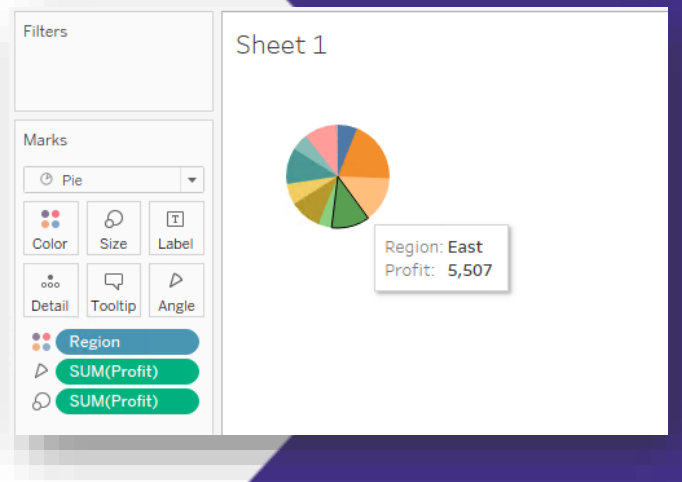
Tableau Charts

- Charts to Visualise Data

Module 8

Advanced Features of Tableau

- Tableau Dashboard
- Tableau Formatting
- Tableau Forecasting
- Tableau Trend Lines



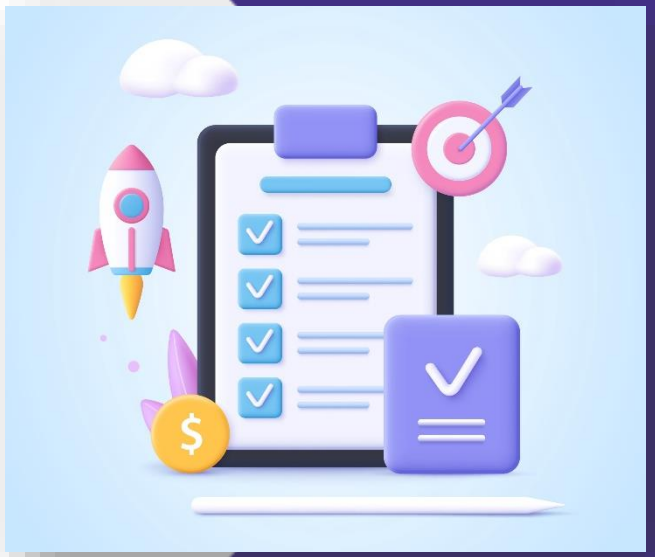
Course 10

Probability And Statistics For Data Science Training Course Outline

Module 1

Technical Team Leading

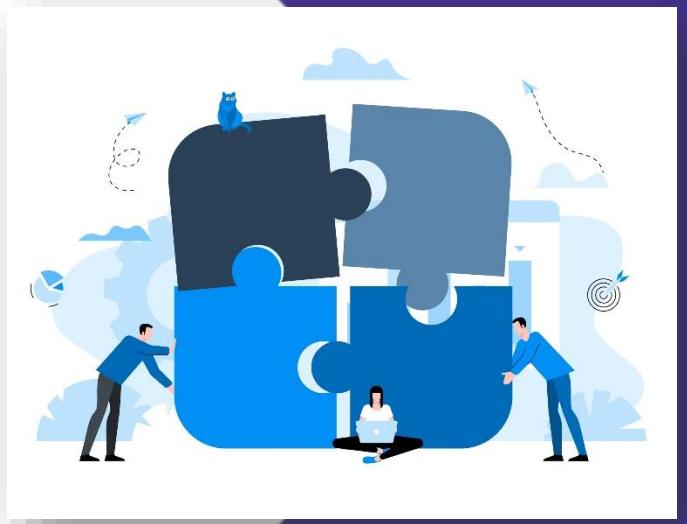
- Introduction to Technical Team Leading
- Responsibilities of a Tech Lead
- Tech Lead Vs Team Lead



Module 2

Technical Team Leading Skills

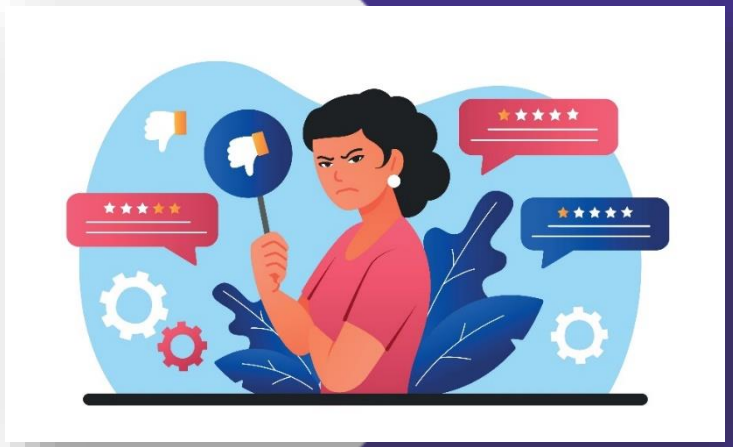
- Communication
- Project Management
- Software Architecture
- Systems Testing
- Analytical Thinking
- Problem-Solving
- Attention to Detail
- Coding
- Leadership
- How to Improve Technical Lead Skills?
- Technical Lead Skills in the Workplace



Module 3

Problems Solves by Tech Lead

- Bad Product-Market Fit
- Demotivated Team
- Unsuccessful Product
- Unhappy Clients
- Disconnect Between Business and IT
- Toxic Team Culture



Module 4

Metrics to Measure Performance for Technical Team Leader

- Setting Up Frameworks of Standards and Procedures
- Setting the Project's Technical Direction
- Conducting Detailed Assessments to Make the Right Decisions
- Team Building
- Motivating the Team
- Tracking Progress

Module 5

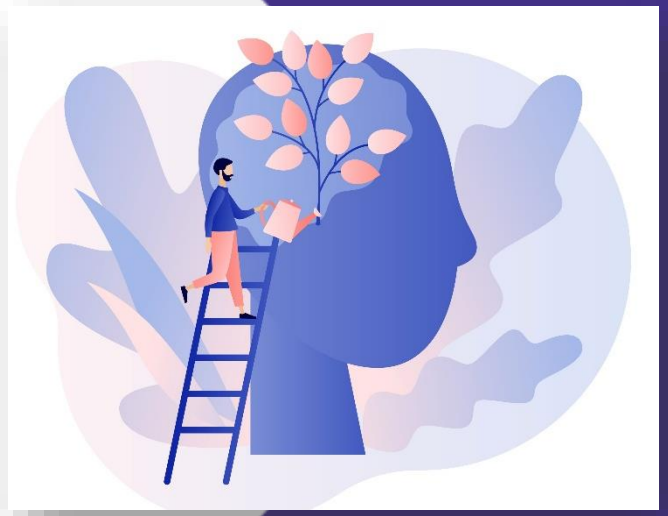
Technical Lead's Responsibilities

- Ensure Code Quality
- Make Architectural Decisions
- Manage Technical Debt

Module 6

Mindset in Leadership

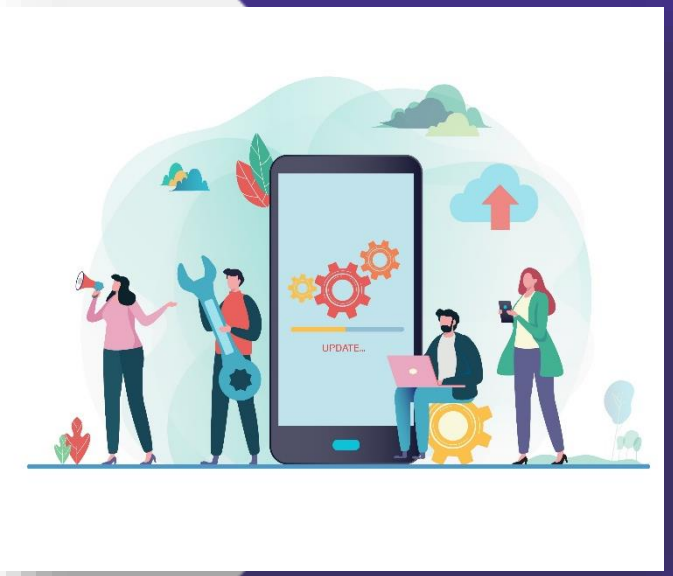
- Caring Mindset
- Abundance Mindset
- Challenging Beliefs Mindset
- Collective Mindset
- Growth Mindset



Module 7

Establish Operational Process

- How to be More Productive?
- How to Empower your Staff?
- Importance of Milestones in Projects



Module 8

Personal and Team Development

- How to Write a Personal Development Team?
- Daily Habits of the Successful Leaders
- Checklist to Better Change Management
- Easy Way to Fast-Track Career

Our Delivery Methods

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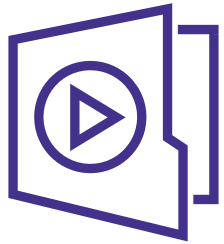

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Online Self-paced

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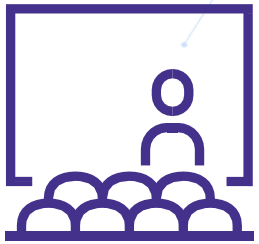
Our courses can be adapted to meet your individual project or business requirements. In-house training gives your team a great opportunity to come together, bond and discuss, which may be limited in a standard classroom setting.



Classroom

Some of our courses are available in our classrooms. All of our trainers are highly qualified, having 10+ years of experience. We use the highest quality learning facilities to make sure your experience is as comfortable as possible.

Contact Us

Europe

+44 1344 203 999

+49 8005 895337

+44 1344 203 999

+31 80000 227317

+41 800 312616

+32 80077519

North America

+1 646 687 6780

+1 613 800 4703

Oceania

+61 1 800 150644

+64 800 446148

Asia

+91 181 5047001

+971 800 0444 3286

+966 8008110368

+65 800 1206314

+852 800 908601