# Power BI Contents

1

## Introduction

- What is Data Analytics?
- what is BI Tool?
- Steps Involved in Creating BI Reports
- Power BI Components
- Interface Study

2

## Interface Study

- Exploring Front end & Backend
- Connectivity Modes in PBI
- How to import the data into PBI

3

## Power Query Editor (ETL)

- Query editing tools in Home Tab & View Tab(Keep & Remove Columns and rows, Manager Parameter, Merge & Append Queries)
- Transform Tab(Group by, Split columns, Format, Extract, Transpose, Pivot Column & Unpivot Column, Merge Columns)
- Add Column Tab (Customizing columns using formulae and expression, creating conditional column, statistics, information, rounding)

4

## Data Modeling

- Relating Tables from Multiple Data sources using Foreign Keys & Cardinality
- Types of Relationship
- Cross Filter Directions

5

## DAX & Visualization

- Dax Calculations, Functions such as Aggregation, Other import, Time Intelligence, Date, Text, Switch, Logical, etc.,
- Visualization using advanced charts and and AI Visuals (Line Chart, Bar Chart, Pie Chart, KPIs, Q&A, Narrative, etc.,)

# SQL Contents


1

## Introduction

- Introduction to SQL
- Introduction to Databases
- Install a Database Engine
- Data Types
- Operators

2

## Functions

- Case Manipulation Functions
- Character Manipulation Functions
- Date Functions
- Null Functions
- Number Functions
- General Functions
- Aggregate Functions / Group Functions
- Analytical Functions

3

## SQL Commands

- DDL, DML, DQL, TCL

4

## Joins and Constraints

- Joins (Inner, Left, Right, Full)
- Constraints (Primary Key, Foreign Key, Unique, Not Null, Check)

5

## Advanced SQL

- Set Operators (UNION, INTERSECT, MINUS)
- Views
- Materialized Views
- Subqueries
- Pseudo Columns (ROWNUM, SYSDATE, etc.)

# Tableau Contents

1

## Introduction

- Tableau Interface
- Tableau Desktop
- Tableau Products
- Data Types in Tableau
- Types of Connection

2

## Interface Study

- Dimensions and Measures
- Tableau File Extension
- Set, Parameter, Group, Bin, Hierarchy, Combine, Filters
- Sorting Axises, Maps
- Types of Charts

3

## Calculations

- LOD - Level of Detail
- Quick Table Calculations

4

## Functions

- Windows Functions, Analytics Func, Date Functions
- Table Calc Functions
- String Functions, Number Func, Logical Func etc.,

5

## Data Modelling / Actions

- Relationship, Joins, Union, Data Blending, Cross DB Join, Custom SQL Query
- Dashboard Actions & Functions
- Tableau Server/Online, Embedded data source, Publshed Data Source

6

## Real time Scenarios

- Dashboard Creation from the scratch

# Python Contents

1

## Introduction & Setup

- Introduction to Python
- Literate Programming
- Anaconda Installation Procedure & Jupyter Notebook Environment
- Basic Syntax and Structure

2

## Data Types & Structures

- Strings, Lists, Tuples, Dictionaries, Sets

3

## Control Flow & Functions

- Python Functions
- Conditional Statements (if, else, elif)
- Iteration (for, while loops)
- Functional Programming Concepts
- Maps & Filters
- Lambdas

4

## Modules & Packages

- Creating and Importing Modules
- Python Packages
- Commonly Used Built-in Modules

5

## File and Data Handling

- File Handling (Read, Write, Append)
- File Data Processing
- Regular Expressions

6

## Data Analysis & Visualization

- NumPy
- Pandas
- Matplotlib

# PL/SQL Contents


1

## SQL Basics

- SQL Introduction
- SQL Operators
- ALL and ANY Operators

2

## Data Types & Commands

- Data Types
- DDL, DML, & SQL*Plus Commands

3

## Functions

- Single Row Functions
- Aggregate Functions (agg()), GROUP BY, and HAVING
- Analytical Functions

4

## Transactions & Access Control

- TCL & DCL
- GTT

5

## Constraints and External Operations

- Constraints
- External Tables
- SQL Loader

6

## Advanced SQL

- Joins
- Views
- Synonyms
- Materialized Views
- Subqueries
- Table Partitioning
- Indexing

7

## Basics & Blocks

- Variable Declaration
- Data Types, Records, Nested Blocks
- Control Statements

8

## Collections & Execution

- PLSQL Collections - Nested Tables & Index-By Tables
- PLSQL Collections - VARRAY
- EXECUTE IMMEDIATE
- Stored Procedures
- PRAGMA AUTONOMOUS TRANSACTION

9

## Modular Programming

- Functions
- Packages

10

## Advanced Topics

- DBMS Jobs
- UTL File
- XML File Handling
- Exception Handling

11

## Cursors & Triggers

- Cursor
- REF Cursor
- Bulk Collect, Bind, Save Exceptions
- Triggers
- Pipelined Table Functions