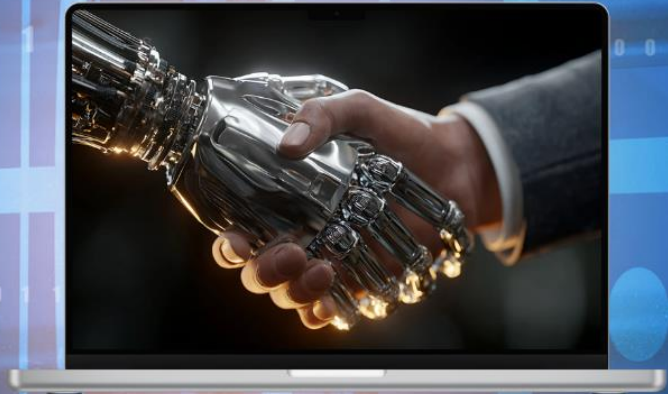




AMA COMPUTER ACADEMY

DATA ANALYTICS AND DATA VISUALIZATION



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 amacomputeracademy.com

Course Title: OCOC Data Analytics and Data Visualization

Duration: 120 hours

Marks: 100

(Final Exam: 50 Marks, Comprehensive Continuous Evaluation (CCE): 50 Marks)

Objectives of the Course:

1. Develop proficiency in creating and enhancing various types of dashboards, including sales performance, expense tracking, and supermarket sales.
2. Utilize advanced Excel features such as slicers, date range filters, and dynamic data integration to create interactive and insightful dashboards.
3. Gain expertise in creating and customizing 2D and 3D charts in Excel for better data presentation and visualization.
4. Learn to optimize sales data visualization using advanced chart types like 100% stacked bar charts and dynamic scatter charts.
5. Understand and create multidimensional charts such as Pareto charts, histograms, and geographical visualizations.
6. Perform trend analysis using charts and integrate dynamic target lines, milestone charts, and year-over-year comparisons.
7. Learn to automate repetitive tasks in Excel using VBA macros to enhance efficiency in dashboard creation and data analysis.
8. Create automated sales performance and delivery performance dashboards.
9. Understand the fundamentals of Business Intelligence and its application in optimizing sales, inventory management, and customer experience.
10. Gain hands-on experience with Power BI to create engaging reports and perform advanced data analysis.
11. Develop skills in using Power Query for data transformation, including text manipulation, date calculations, and conditional columns.
12. Merge datasets, clean data, and perform efficient column management in Power BI.
13. Master the creation of advanced visualizations in Power BI, including map visuals, Sankey charts, and sunburst charts.
14. Customize and enhance Power BI reports with themes, dynamic titles, filters, and slicers.
15. Develop foundational skills in Tableau for data visualization, including data import, integration, and exploration.
16. Understand the concepts of dimensions, measures, and aggregations to create meaningful insights in Tableau.
17. Learn to differentiate between discrete and continuous data and apply them effectively in visualizations.
18. Gain proficiency in creating various types of charts, graphs, and dashboards for data storytelling in Tableau.
19. Understand and implement different types of filters in Tableau to refine data analysis and reporting.
20. Develop a strong foundation in Python, including data types, control structures, and functions.
21. Apply Python for data manipulation, file handling, and error handling in real-world scenarios.
22. Gain hands-on experience in SQL database management, including data retrieval, modification, and transactions.

23. Explore Google Sheets for data processing, analysis, and automation using built-in functions and scripts.
24. Create interactive dashboards and reports in Looker Studio for business intelligence and decision-making.
25. Develop statistical computing and data analysis skills using R for various datasets and visualization techniques.
26. Understand and apply exploratory data analysis (EDA) techniques for identifying patterns and anomalies.
27. Leverage ChatGPT-4 for automated data cleaning, transformation, and predictive analytics.
28. Integrate multiple tools, including Tableau, Python, R, SQL, and Google Sheets, for end-to-end data analysis.
29. Apply advanced data visualization techniques to enhance data interpretation and storytelling.
30. Use automation tools and scripting to optimize repetitive data processing tasks for efficiency.
31. Analyse market trends, financial reports, and customer behaviours using advanced data analytics techniques.
32. Develop hands-on experience in real-time dashboards, anomaly detection, and sentiment analysis using ChatGPT-4.

Welcome To
Outcomes of the Course:

1. Create comprehensive and interactive Excel dashboards for sales performance, expense tracking, and supermarket analytics.
2. Utilize advanced Excel features such as slicers, filters, and dynamic data integration to enhance dashboard functionality.
3. Create and customize 2D and 3D charts to effectively visualize data trends and comparisons.
4. Use advanced chart types like Pareto charts, histograms, and scatter charts to provide deeper insights into data.
5. Leverage Power BI to create dynamic and visually appealing reports.
6. Utilize Power Query for efficient data transformation and management, including merging datasets, cleaning data, and applying conditional logic.
7. Write and implement VBA macros to automate repetitive tasks and streamline data analysis processes in Excel.
8. Develop automated dashboards for sales and delivery performance monitoring.
9. Apply advanced visualization techniques to present data clearly and effectively.
10. Use BI tools to analyze and interpret complex data sets, providing actionable insights for business decisions.
11. Customize Power BI reports with themes, dynamic titles, and interactive filters to enhance user experience.
12. Create advanced visualizations such as Sankey charts, map visuals, and sunburst charts to convey information more effectively.
13. Demonstrate competence in Tableau by creating insightful visualizations and dashboards for data-driven decision-making.
14. Use Python for data processing, analytics, and visualization, incorporating real-world datasets.
15. Perform SQL database operations for structured data management and retrieval.

16. Apply advanced Google Sheets techniques for sorting, filtering, and automating data workflows.
17. Leverage Looker Studio to build interactive reports and share insights effectively.
18. Utilize R for statistical computing, data manipulation, and visualization.
19. Employ ChatGPT-4 for exploratory data analysis (EDA), anomaly detection, and predictive modeling.
20. Integrate multiple data tools and platforms to solve business and analytical problems.
21. Analyse and interpret data to generate meaningful insights for decision-making.
22. Develop automation workflows for repetitive data tasks, improving efficiency and productivity.

Course Title: OCOC Data Analytics and Data Visualization

Tools Covered: Microsoft Excel 365, Microsoft 365, Power BI, Tableau, Python, MySQL, Google Sheets, Looker Studio, R, ChatGPT-4.

Syllabus:

1. Excel Dashboard Introduction

- Monthly Sales Performance Dashboard
- Expense Tracker Update for Supermarket Dashboard
- Enhancing Sales Dashboard with Slicers
- Enhancing Sales Insights with Date Range Filters
- Dynamic Data Integration for Supermarket Dashboard
- Supermarket Sales Performance Dashboard

2. Working With Charts

- Visualizing Product Performance
- Visualizing Supermarket Performance
- Enhancing Sales Data Visualization with 100% Stacked Bar Charts in a Supermarket
- Optimizing Sales Data Visualization
- Enhancing Clarity in Sales Data Visualization

3. Master 2D and 3D Charts in Excel

- Visualizing Yearly Sales Trends for Three Products Using Excel Charts
- Comparing the Effectiveness of 2D vs. 3D Stacked Area Charts for Data Presentation
- Customizing Scatter Charts in Excel
- Visualizing Sales, Marketing, and Finance Trends with Scatter Charts
- Create and Customize Scatter Charts with Straight Lines

4. Creating Apt Charts with Ease

- Excel Data Visualization Assignment
- Creating a Combo Chart in Excel
- Sales and Performance Data for Ten Individuals
- Creating and Enhancing Dynamic Scatter Charts in Excel

- Creating and Enhancing Excel Charts

5. Overview of Multidimensional Charts

- Visualizing the 80-20 Rule with Excel's Pareto Chart
- Create and Customize Histograms for Sales Data Analysis
- Create and Customize Geographical Data Visualizations
- 3D Geographical Mapping in Excel
- Interactive Data Point Identification in Excel Scatter Charts

6. Trend Analysis of Data Using Charts

- Integrating Dynamic Target Lines in Excel Charts
- Create and Customize Data Visualizations for Clarity and Insight
- Visualizing Year-Over-Year Changes with Trend Arrows in Excel Charts
- Create and Customize Milestone Charts for Project Tracking
- Create and Customize Dynamic Pareto Charts
- Creating and Understanding Dynamic Pareto Charts in Excel

7. Dynamic Charts with Variations

- Creating and Understanding Dynamic Charts in Excel
- Create and Customize a Speedometer Chart for Performance Tracking
- Creating a Speedometer Chart
- Creating and Analysing Excel Charts

8. Creating Advanced Charts for Better Visualization

- Constructing and Customizing a Basic Bullet Chart in Excel
- Creating Advanced Charts for Better Visualization
- Dynamic Sales Dashboard
- Advanced Conditional Formatting in Excel Dashboards

9. Basic Dashboards

- Advanced Dashboard Construction and Data Visualization in Excel
- Advanced Dashboard Customization and Visualization
- Creating an Interactive Expense Tracking Dashboard
- Advanced Dashboard Construction and Optimization in Excel

10. Assemble a Sales & Profit Management Dashboard

- Building and Customizing an Advanced Dashboard
- Explore and Learn Advanced Data Visualization and Dashboard Enhancements in Excel
- Creating and Customizing an Expense Tracking Dashboard
- Sales & Profit Management Dashboard in Excel

11. Construct a Pivot Table Dashboard with Slicers & Timelines

- Creating a Sales Dashboard with Advanced Visualizations in Excel
- Creating an Interactive Sales Dashboard in Excel with Slicers and Timelines
- TechMart Sales Analysis Dashboard
- Regional Sales Performance Dashboard

- Budget Monitoring Dashboard for Monthly Expenses

12. Understand Advanced Roll Over Effects in Excel Charts

- Enhancing Sales Performance with Pivot Tables and Slicers
- Top Products and Employees Monthly Sales Analysis
- Interactive Financial Performance Dashboard for ABC Finance Ltd
- Interactive Sales Performance Dashboard for XYZ Retailers

13. Utilize VBA Toolkit for Excel Dashboard Macros

- Quarterly Sales Performance Dashboard for an Indian Retail Store
- Automating Weekly Sales Report with Excel Macros
- Monthly Delivery Performance Dashboard for Logistics Management
- Monthly Sales Performance Dashboard for Top FMCG Products

14. Understanding Business Intelligence (BI)

- Optimizing SuperMart's Inventory and Sales Strategies Using Power BI
- Quarterly Sales Performance Analysis of Product Categories
- Regional Sales Performance Analysis for Last Month using Power BI
- Analysing Textile Production Volumes Last Quarter Report
- Enhancing Sales and Customer Experience with BI at Retail India Pvt Ltd

15. Power BI Reports for Data Analysis & Data Visualisation

- Introduction to Power BI Desktop & Power Query
- Creating Engaging Reports in Power BI
- Power Query - Streamline Data Import
- Text Manipulation in Excel Using Power Query
- Text Transformation in Power BI
- Advanced Text Splitting in Power BI

16. Multiple Functions in Power Query

- Date Functions in Power Query
- Basic Date Calculations in Power Query
- Advanced Date Calculations in Power Query
- Date Functions, Prefixes and Suffixes, Basic Arithmetic Operations in Power Query
- Advanced Operations, Modulo, and Percentage Calculations in Power Query

17. Math Functions & Conditional Columns

- Math Functions, Rounding, and Number Types in Power Query
- Trigonometric Functions and Conditional Columns in Power Query
- Custom Column Creation and Conditional Logic in Power Query
- Conditional Formatting and Columns in Power Query

18. Conditional Column from Examples

- Conditional Columns and Comparisons in Power Query and Excel
- Using Excel Flash Fill and Functions
- Formatting with Flash Fill
- Merging and Splitting Text Columns

- Merging and Splitting Text Columns in Power Query

19. Introduction to Merge Queries in Power Query

- Merging Data with Power Query
- Using VLOOKUP in Excel and Merging Queries in Power BI
- VLOOKUP Challenges and Solutions
- VLOOKUP Advanced Techniques
- Merging Datasets in Power BI

20. Working with Rows & Columns

- Efficient Column Management in Power Query
- Appending Multiple Excel Sources and Data Sets
- Merging and Refreshing Data in Power BI
- Data Cleaning and Appending in Power BI
- Streamline Tables

21. Working with Basic Charts

- Sales Trends Analysis
- Sales Distribution Analysis by Region
- Advanced Visualizations and Clustered Column Charts in Power BI
- Advanced Chart Techniques in Power BI
- Advanced Visualization Techniques in Power BI

22. Formatting of Visuals

- Enhancing Chart Backgrounds and Formatting Lines and Markers
- Creating and Enhancing Combo Charts
- Working with Power BI Charts and Slicers
- Creating and Formatting Charts in Power BI
- Customizing Pie Chart Data Labels and Modifying Text in Visuals

23. Working with Maps in Power BI & Geostyling

- Advanced Map Visualizations in Power BI
- Working with Maps and Dynamic Chart Titles in Power BI
- Implementing Dynamic Titles and Single Selections in Power BI
- Advanced Visualization Techniques in Power BI
- Creating and Optimizing Map Visuals in Power BI

24. Working with Page Perfections & Themes

- Enhancing Power BI Reports with Visual Borders and Tooltips
- Customizing Canvas in Power BI
- Customizing Filters and Themes in Power BI
- Enhancing Power BI Reports with Custom Themes
- Applying and Customizing Themes in Power BI

25. Designated charts and graphs

- Creating Stacked Area Charts
- Creating Different Chart Types
- Creating Scatter and Waterfall Charts

- Creating Gauge Charts and Scrollers

26. Smart Visuals & Matrix Mastery

- Creating and Understanding Sankey Charts in Power BI
- Creating and Customizing Infographic Visualizations and Word Clouds in Power BI
- Utilizing Matrices and Tables in Power BI
- Designing Tables and Generating Sunburst Charts in Power BI
- Utilizing Various Visuals in Power BI

27. Introduction to Filters

- Applying Filters in Power BI
- Implementing and Utilizing Filters in Power BI
- Implementing and Customizing Text Filters in Power BI
- Using Advanced Text Filters and Top N Text Filters in Power BI
- Using Date Filters in Power BI

28. Filters or Slicers on different data types in Power BI

- Advanced and Top N Date Filters in Power BI
- Applying Number Filters, Value Filters, and Relative Date Filtering in Power BI
- Customizing Filters and Using Slicers in Power BI
- Managing and Customizing Slicer Selections in Power BI
- Designing Order Date Slicers, Utilizing Hierarchy in Slicers, and Customizing Date Formats in Power BI
- Utilizing Relative Date Slicers in Power BI

29. Getting Started with Tableau

- Tableau: A Data Visualization Tool
- Exploring Data with Tableau
- Tableau Desktop and Tableau Public
- Tableau Public Installation and Interface Exploration
- Data Import and Exploration in Tableau
- Efficient Data Integration: Excel Sheets in Tableau for Analysis
- Introduction to Data Exploration in Tableau Public
- Sheet Connections in Tableau Public
- Pricing Structure for Tableau
- Sources of Data in Tableau
- Understanding Dimensions and Measures in Tableau
- Dimensional Analysis - Insights in Tableau

30. Core Tableau Topics

- Distinguish Discrete and Continuous in Tableau
- Discrete vs. Continuous
- An Example using Dimensions and Measures in Tableau
- Data Aggregations in Tableau
- Advanced Measures Exploration in Tableau
- Visualize with Tableau - Charts and Graphs
- Advanced Chart Creation in Tableau

- Tableau Public - Profile, Interactions, and Sharing
- Creating, Customizing, and Managing Reports in Tableau
- Exploring and Customizing Bar Charts in Tableau
- Measures for Customizing Bar Chart Labels in Tableau
- Construct Stacked Bar Charts for Deeper Insights

31. Creating Basic Charts in Tableau while Working with Metadata

- Creating Continuous Line Charts with Tableau
- Crafting and Customizing Line Charts in Tableau
- Exploring Scatter Plots in Tableau
- Advanced Techniques for Scatter Plots and Circle Views in Tableau
- Create Dual Axis Charts for Comparative Analysis
- Dual and Combined Axes in Tableau
- Customizing Dual and Combined Axes
- Designing and Crafting Funnel Charts in Tableau
- Funnel Formatting and Final Touches
- Create Crosstabs for Data Comparison
- Develop Highlight Tables for Enhanced Visualization
- Modify Column Data Types for Accurate Analysis
- Manage Data: Renaming, Hiding, and Sorting
- Set Default Field Properties for Efficiency

32. Filters in Tableau & Dashboard in Process

- Implement Dimension Filters for Focused Analysis
- Apply Date Filters for Temporal Data Analysis
- Utilize Measure Filters for Quantitative Analysis
- Crafting Visualizations and Dashboards in Tableau
- Introduction to Action Filters in Tableau
- Create Interactive Filters for Dynamic Insights
- Apply Data Source Filters for Streamlined Data
- Context Filters for Targeted Insights in Tableau
- Calculated Fields and Top N Filters in Tableau
- Diverse Visualizations and Dashboard Layouts in Tableau
- Applying Filters and Adding Visualizations in Tableau
- Enhancing Visualizations with Action Filters in Tableau
- Advanced Action Filters in Tableau

33. An Introduction to Python Basics

- What can Python do?
- Why Python?
- Python Installation
- Print Statement with Multiple Techniques
- Displaying Name and Age with the format() Method
- Understanding and Utilizing Different Types of Comments
- Multi-line and DocString Comments
- Strings, Numeric, and Complex Data Types
- Lists, Tuples, Ranges, and Dictionaries in Python

- Indexing, Slicing, and Essential Methods
- String Functions and Boolean Operations

34. Beginning Python Basics

- Sets, Frozen Sets and Booleans in Python
- Understanding Byte, ByteArray, and Memory View
- Python Handling User Input with Ease
- Operations and Tuple Modifications
- Arithmetic and Assignment Operators
- Comparison and Logical Operators
- Understanding Rules and Examples for Python Indentation
- Structure in Loops
- Conditional Statements in Python
- Simple If and If-Else Statements
- Advanced If-Else and Nested IFs
- An Example with If and Its Related Statements

35. Python Program Flow

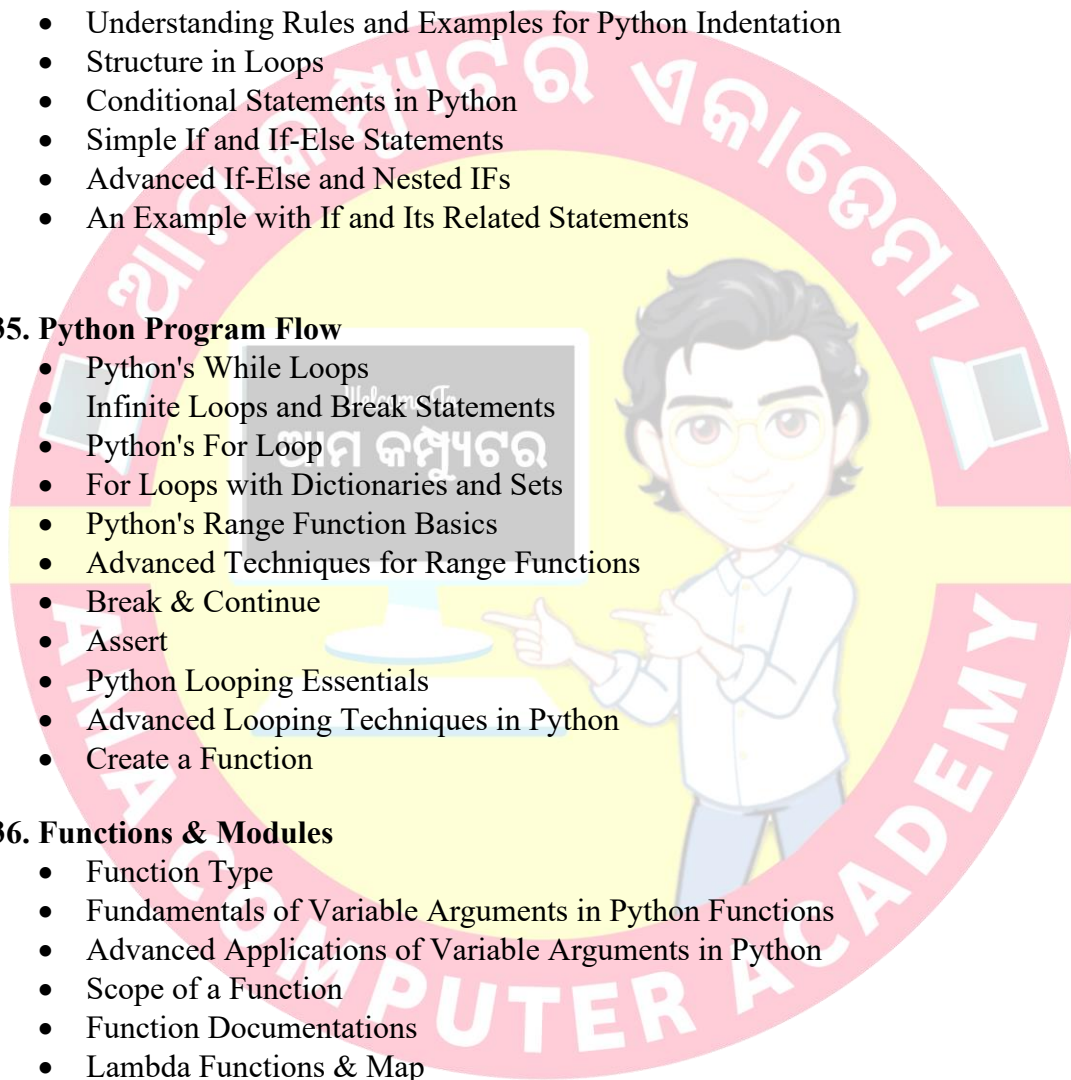
- Python's While Loops
- Infinite Loops and Break Statements
- Python's For Loop
- For Loops with Dictionaries and Sets
- Python's Range Function Basics
- Advanced Techniques for Range Functions
- Break & Continue
- Assert
- Python Looping Essentials
- Advanced Looping Techniques in Python
- Create a Function

36. Functions & Modules

- Function Type
- Fundamentals of Variable Arguments in Python Functions
- Advanced Applications of Variable Arguments in Python
- Scope of a Function
- Function Documentations
- Lambda Functions & Map
- Basics to Advanced Applications in Python
- Functions for String Manipulation and Data Types
- Create a Module
- Python's Standard Math Modules
- Time with Standard Modules
- Local to Global Variables in Python
- Advanced Local and Global Variables

37. Exception Handling & File Handling

- Python Errors - From Syntax to Runtime



- Error Handling in Python
- Python Exception Handling
- Type Errors and Custom Solutions
- File Handling - Reading, Writing, and Appending
- File Handling - Modes, Closing, and Best Practices
- Custom Exceptions in Python
- Implementing and Utilizing Custom Exceptions
- Python File Reading Essentials
- Reading and Analyzing Words and Lines in Python

38. Classes & Collections in Python

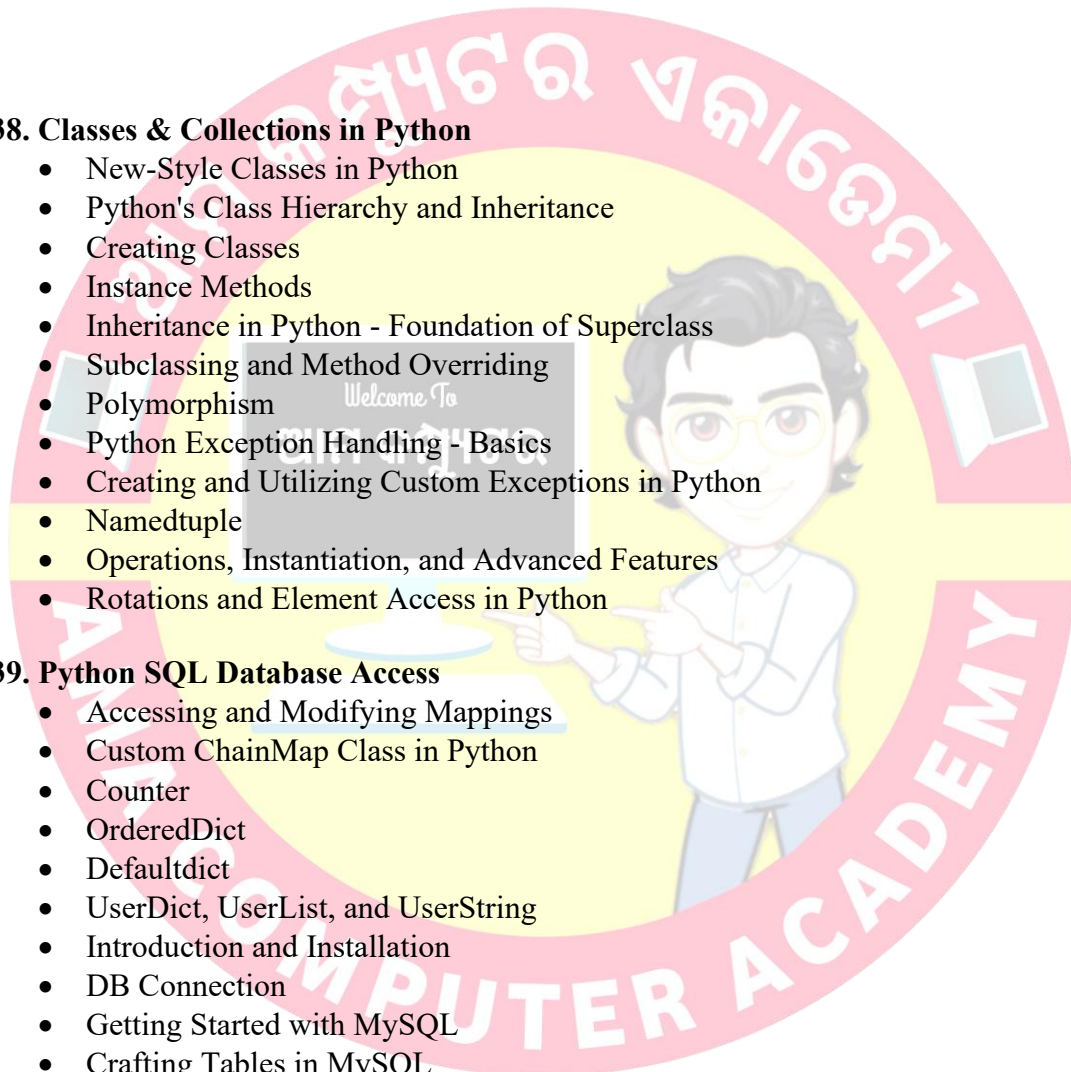
- New-Style Classes in Python
- Python's Class Hierarchy and Inheritance
- Creating Classes
- Instance Methods
- Inheritance in Python - Foundation of Superclass
- Subclassing and Method Overriding
- Polymorphism
- Python Exception Handling - Basics
- Creating and Utilizing Custom Exceptions in Python
- Namedtuple
- Operations, Instantiation, and Advanced Features
- Rotations and Element Access in Python

39. Python SQL Database Access

- Accessing and Modifying Mappings
- Custom ChainMap Class in Python
- Counter
- OrderedDict
- Defaultdict
- UserDict, UserList, and UserString
- Introduction and Installation
- DB Connection
- Getting Started with MySQL
- Crafting Tables in MySQL
- Inserting Data into MySQL Tables
- Reading, Updating, and Deleting Data in MySQL
- COMMIT & ROLLBACK operation

40. Date & Time Functions in Python

- MySQL Error Handling
- Handling Errors in MySQL Operations
- An Introduction to Built-in Iterators
- Custom Iterators for Squares
- Range-like Iterators



- Sleep
- Techniques for Measurement in Python
- Calculating Execution Time with Python's timeit and time Module
- Time Representation in Python
- Creation to Arithmetic Operations
- Data Filtering in Python
- Filtering Non-Empty Strings and Unique Emails
- Python's map, filter, and reduce
- Python's map and star map for Enhanced Functionality

41. Miscellaneous Topics in Python

- Reduce
- Basic Decorators Functionality
- Decorators for Enhanced Functionality
- Frozen set
- Python's Collections Module and Its Core Components
- Collections for Enhanced Data Handling and Manipulation in Python
- Python String Manipulation
- Handling Whitespace and Delimiters with Split()
- Identifying Various Date Formats in Python
- Email Validation with Regular Expressions in Python

42. Regular Expression in Python

- Power of Quantifiers in Regular Expressions
- Lazy and Non-Greedy Quantifiers in Regular Expressions
- Exploring Match, Search, and Fullmatch in Python
- Leveraging find all and finditer Functions in Python
- Search, Substitute, and Named Groups
- Search and Substitute Functions with Regular Expressions
- Advanced Replacement Techniques with sub N Function and Practical Examples
- Exploring Patterns, Classes, and Case-Insensitive Matching in Python
- Ranges, Delimiters, and Specific Patterns in Python
- Exploring Character Classes and Search Methods in Regular Expressions
- Managing Special Characters with Escape Sequences and Anchors

43. Introduction to Google Sheets and Essential Functions and Formulas

- Discover Google Sheets Features
- Navigate Google Sheets with Ease
- Create and Save Your First Spreadsheet
- Spreadsheet Formatting
- Advanced Spreadsheet Formatting
- Collaborate and Share Spreadsheets Efficiently
- Basic Formula and Functions
- Introduction to Absolute and Mixed References
- Common Math Functions and Operations
- COUNTIF, SUMIF, and SUMIFS Functions
- Text Manipulation Functions

- LEFT, RIGHT, MID, and FIND Functions
- Date and Time Functions in Google Sheets
- NETWORKDAYS and TEXT Functions
- IF Statements, and Nested IFs
- VLOOKUP and HLOOKUP Functions

44. Data Management, Analysis, Collaboration and Automation

- Sort and Filter Data for Enhanced Insights
- Data Validation and Data Integrity
- Date and Text Validation
- Analyze Data Efficiently with PivotTables
- Date Data Grouping, Extracting and Filtering
- Visualize Data with Charts and Graphs
- Creating Stacked Columns, Combo Charts, and Line Graphs
- Conduct Advanced Data Analysis Techniques
- Enhance Teamwork with Comments and Tools
- Track Changes with Revision History
- Automate with Google Apps Script Basics
- Create Custom Functions and Macros

45. Advanced Formatting and Conditional Formatting with Data Import and Export

- Create Macros to Automate Task
- Automate Routine Tasks in Google Sheets
- Setting Triggers for Spreadsheet Opening
- Apply Advanced Cell Formatting Techniques
- Implement Conditional Formatting for Insights
- Create Custom Conditional Formats for Data
- Use Templates for Consistent Data Reports
- Master Advanced Formatting for Professional Reports
- Import Data Seamlessly from Various Sources
- Export Data in Multiple Formats for Use
- Query Data within Google Sheets for Insights
- Connect Sheets with Apps for Streamlined Workflow
- Clean and Transform Data for Analysis

46. Advanced Charts, Visualization and Streamlining Analytics with Google Sheets

- Create Interactive Charts for Dynamic Insights
- Utilize Sparklines for Compact Data Visualization
- Implement GeoMapping for Geographic Data Analysis
- Customize Column Charts
- Chart Customization for Enhanced Data Storytelling
- Analyze Trends with Advanced Visualization
- Automate Reports for Up-to-Date Dashboards
- Integrate Sheets with Data Pipelines for Efficiency
- Optimizing Google Sheets to Overcome Limitations
- Function Optimization and Execution Control
- Apply Advanced Tips for Efficient Data Analysis

- Recap: Transform Data Entry into Actionable Insights

47. Introduction to Google Looker Studio and Understanding Data

- Why Choose Looker Studio?
- Setting Up Looker Studio
- Exploring the Interface
- Creating Your First Visualization
- Saving the Look in Looker
- Introduction to Filtering
- Filtering in Looker Using Measures
- Overview of Visualization in Looker
- Creating Bar and Column Charts
- Adding Dimensions, Pivoting, and Grouping
- Grid Layout, Pivoting, and Spacing
- Designing Line Charts

48. Building Visualizations and Enhancing Reports with Filters and Custom Fields

- Pie Charts for Data Distribution
- Introduction to Scatterplots
- Advanced Scatterplot - Trend Lines, Reference Lines, and Saving
- Utilizing GeoMaps
- GeoMap Scale, Position, Zoom, and Saving
- Single-Value Visualization
- Introduction to Customs in Looker
- Creation and Interpretation of Table Calculations
- Permissions, Limitations, and Key Distinctions
- Custom Dimension Creation
- Binning as a Custom Dimension
- Grouping Data with Custom Dimensions
- Developing Custom Measures

49. Organizing Content in Looker and Managing Dashboards

- Look View Mode in Looker
- Data and Filters in View Mode
- Different Options in Look View Mode
- Customizing Dashboard Layout and Design
- Filter Adding to the Dashboard
- Optimizing Dashboards with Filters, Linked Filters, and Tile Management
- Setting Up Tiles and Filters Dashboard
- Creating and Managing Folders
- Downloading the Data from Looker
- Sharing Looks and Sending Mails from Looker
- Sharing Dashboards and Sending Mails from Looker
- Creating Boards in Looker

50. Introduction to R

- Overview of R
- Introduction to Data Types in R

- Understanding Data Type Casting
- Introduction to Variables in R
- Variable Methods and Naming Conflicts
- Operators in R
- Reading Data Files in R
- The Reader Package, CSV Files, and read_lines Function
- Data Import with read_table and read_csv
- Writing Data inside R

51. Conditional and Looping Construct Function

- Introduction to Decision Making
- Nested If-Else-If Statement, Switch Statement
- Introduction to Loops
- Nested For Loops, Break Statement & Next Statement
- Repeat Loops & While Loops
- Introduction to String Functions
- Standardizing Text Case in R
- Creating Date Objects in R
- Formatting Dates & Handling Time Data
- Calculating Date and Time Differences
- Math Functions in R

52. Data Structures in R

- Introduction to Arrays & Multidimensional Structures
- Accessing Elements, Rows & Columns
- Introduction to Lists in R
- Manipulating Lists
- Introduction to Data Frames in R
- Multiple Activities using Data Frames in R
- Introduction to Vectors in R
- Manipulation of Vectors and Factors
- Introduction to Matrices in R
- Accessing Matrix Elements & Modifying Matrices
- Combining Matrices & Creating Special Matrices

53. Data Analysis & File Management

- Introduction to Charts and Graphs, Bar Plots, Histograms
- Box Plots, Multiple Box Plots, Scatter Plots, Heat Maps & 3D Graphs
- Scatter Plots
- 3D Scatter Plots, Box Plots, Colored Box Plots & Multiple Box Plots in One Plot
- Bar Plots & Labeled Bar Plots
- Grouped Bar Plots, Stacked Bar Plots & Histograms
- Conducting T-tests
- Working with Excel Files in R
- Managing CSV Files in R
- Introduction to Advanced Data Import Techniques
- Reading XML Files & Reading Data from Websites

54. Introduction to ChatGPT-4 & Basic Data Operations

- Understand ChatGPT-4's Capabilities
- Understand ChatGPT-4's Limitations
- Set Up ChatGPT-4 for Efficient Data Analytics
- Create Datasets Using Diverse Sources and Techniques
- Clean Data by Identifying and Resolving Irregularities
- Classify Data Types and Structures for Analytics
- Learn Basic Data Transformation Techniques
- Execute Simple Data Queries Using ChatGPT-4
- Data Analysis and Exploration with ChatGPT
- Cleaning, Analysis, and Visualization with ChatGPT
- Analyze Market Trends with ChatGPT-4
- Perform Real-time Data Processing and Analysis
- Apply Predictive Analytics in Business Decision-Making
- Utilize ChatGPT-4 for Understanding Financial Reports

55. Advanced Data Cleaning and Preprocessing with Data Visualization Fundamentals

- Missing Values and Outliers
- Normalize and Standardize Data for Consistency
- Engineer Features to Enhance Data Analysis
- Preprocess Text Data for Effective Analysis
- Understanding Date and Time Data with ChatGPT
- Extracting, Analyzing, and Enhancing Date of Birth Data
- Prepare Data for In-Depth Analysis
- Apply Effective Data Visualization Principles
- Create Basic Charts and Graphs Using ChatGPT-4
- Form Histograms & Bar Charts
- Generate Advanced Visualizations: Heatmaps and Boxplots
- Build Interactive Dashboards and Compelling Data Stories
- Real-Time Dashboards with ChatGPT
- Apply Best Practices in Data Presentation

56. EDA in ChatGPT-4 with Advanced Data Analytic Techniques

- Perform Exploratory Data Analysis with ChatGPT-4
- Analyze Data Statistically and Summarize Metrics
- Introduction, Anomalies, Patterns, and ChatGPT Exploration
- Spotlight on Anomaly Detection and Box Plot Analysis
- Analyze Correlation and Causation in Data Sets
- Insights on Correlation and Causation
- Extract Inferences from Exploratory Data Analysis
- Understanding Employee Attrition and Strategies for Retention
- Perform Regression Analysis with ChatGPT-4
- Apply Classification Techniques in Data Analytics
- Conduct Time Series Analysis and Forecasting
- Implement Clustering
- Conduct Sentiment Analysis and Study Consumer Behavior

- Generate Custom Code for Data Analytics with ChatGPT-4
- Seamlessly Integrate ChatGPT-4 with Analytical Tools
- Master Advanced Data Querying and Retrieval with ChatGPT-4



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