Course Description: Join our Professional Python training course in Dubai, available both in-person and online. Learn the essential skills and techniques to develop efficient and robust programs using the Python programming language. Whether you're an absolute beginner or an experienced developer seeking to update your skills, our intensive program sets you up for success in your chosen field. Get hands-on experience and become proficient in this widely used and versatile programming language.

PYTHON

Introduction to Python

- Overview of Python and its features
- Installing Python and setting up the development environment
- Running Python scripts and using the interactive shell

Python Basics

- Variables, data types, and basic operations
- Control flow structures (if statements, loops)
- Functions and modules
- Input and output operations

Data Structures

- Lists, tuples, and dictionaries
- Sets and frozensets
- Strings and string manipulation

Object-Oriented Programming (OOP) in Python

- Classes, objects, and methods
- Inheritance and polymorphism
- Encapsulation and data hiding

File Handling

- Reading and writing files
- Working with text and CSV files
- Exception handling

Working with Modules and Libraries

- Understanding modules and packages
- Importing and using built-in and third party modules
- Exploring popular Python libraries (e.g., NumPy, Pandas, Matplotlib)

Error Handling and Debugging

- Common types of errors in Python
- Using try-except blocks for error handling
- Debugging techniques and tools

Pythonic Programming

- Writing idiomatic and efficient Python code
- List comprehensions and generator expressions
- Context managers and the "with" statement

Working with APIs and Web Scraping

- Making HTTP requests with Python
- Parsing and manipulating JSON/XML data
- Web scraping fundamentals

Introduction to Database Programming

- Connecting to databases
- Executing SQL queries with Python
- Using ORMs (Object-Relational Mapping)

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Introduction to Testing

- ➢ Writing and running unit tests with the unit test module
- ➢ Test-driven development (TDD) principles

Introduction to Data Analysis and Visualization

- ➢ Manipulating and analyzing data with libraries like NumPy and Pandas
  ▢ Creating visualizations using Matplotlib or other plotting libraries

Introduction to Web Development with Flask/Django

- ➢ Building web applications using Python frameworks
- ➢ Handling requests and designing routes
- ➢ Working with templates and forms

Introduction to Machine Learning with Python

- ➢ Overview of machine learning concepts
- ➢ Using popular libraries like scikit-learn for classification and regression
- ➢ Training and evaluating machine learning models

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