About **Program**

PYTHON:

Python is a high-level, general-purpose programming language used for developing a variety of applications. It is known for its simplicity, readability, and ease of use, making it a popular choice among developers. Python supports multiple programming paradigms, including object-oriented, imperative, and functional programming. Its large standard library and vast ecosystem of third-party libraries make it ideal for tasks such as web development, data analysis, machine learning, and scientific computing. Python's popularity and versatility make it a valuable skill for developers in various industries.

- First interaction with python basics
- Detail analysis of data types
- Functions Files and Exceptions
- Object Oriented programming in python
- Advance side of python
- Handling API in Python
- Multiple use cases of Python

Introduction to Python Programming

- Introduction to Programming
- History of Python
- Python Installation and Environment Setup

- Python Basics – Syntax, Data Types, Variables, and Operators
- Python Input and Output
- Control Flow and Loops
- Functions and Modules
- Working with Files and Directories

Data Structures and Algorithms

- Arrays and Lists
- Dictionaries and Sets
- Tuples and Sequences
- Stack and Queues
- Searching and Sorting Algorithms
- Recursion
- Big O Notation

Object-Oriented Programming

- Introduction to Object-Oriented Programming
- Classes and Objects
- Inheritance and Polymorphism
- Encapsulation and Abstraction
- Exception Handling

Web Development with Python

- Introduction to Web Development with Python

- Web Frameworks – Flask and Djang
- HTML and CSS
- Creating Dynamic Web Pages with Python
- Database Connectivity
- Deploying Web Applications

Data Analysis and Visualization

- Introduction to Data Analysis and Visualization
- Data Structures for Data Analysis – Pandas and Numpy
- Data Cleaning and Preprocessing
- Data Visualization with Matplotlib and Seaborn
- Exploratory Data Analysis

Machine Learning

- Introduction to Machine Learning
- Linear Regression
- Logistic Regression
- Decision Trees
- Random Forest
- Support Vector Machines
- Naive Bayes
- K-Nearest Neighbors
- Clustering Algorithms
- Dimensionality Reduction

Advanced Topics

- Regular Expressions
- Networking and Sockets
- Multithreading and Concurrency
- GUI Programming with Tkinter
- Working with APIs
- Image and Video Processing with OpenCV
- Natural Language Processing with NLTK

About Techehost

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