

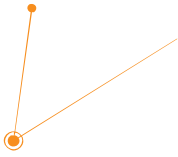
वेबगुरुकुल

सर्व हिताय शिक्षा



WEBGURUKUL PROGRAMMING LANGUAGE COURSES

*“Don’t simply dream of success;
instead, put in the effort to achieve it.”*



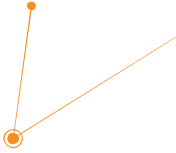
Python Training Overview

1. Prerequisites for the Python Course
2. Course Objectives
3. Target Audience for the Course
4. Duration of Python Training Course

Python Course Content

1. Introduction to Python
2. Python Scripting Basics
3. Python Modes of Operation
4. Python Variables
5. Working with Strings
6. Operators and Operands in Python
7. Conditional Statements
8. Loops in Python
9. Sequence and Collections
10. Lists in Python
11. Tuples in Python
12. Sets in Python
13. Dictionaries in Python
14. Functions in Python
15. Advanced Python Topics
16. Python Modules
17. Python Packages
18. Date and Time Handling in Python

19. File Handling
20. Python OS Module
21. Exception Handling in Python
22. Advanced Python Concepts
23. Object-Oriented Programming in Python
24. Regular Expressions in Python
25. XML Parsing in Python
26. Python Database Interaction
27. Multi-Threading in Python
28. Web Scraping with Python
29. Unit Testing with PyUnit
30. Introduction to Python Web Frameworks
31. GUI Programming with Tkinter
32. Data Analytics in Python
33. Introduction to Machine Learning with Python
34. Data Science with Python
35. Internet of Things (IoT)



CORE PYTHON

Introduction to Script

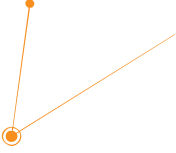
1. Understanding Scripts and Programs
2. Various Script Types
3. Contrasting Scripts and Programming Languages
4. Characteristics and Constraints of Scripting
5. Categories of Programming Language Paradigms

Introduction to Python

1. Python Overview
2. Advantages of Python
3. Python's User Base
4. Key Traits of Python
5. Python's Historical Background
6. Python Software Foundation (PSF)
7. Python Version Evolution
8. Installing Python
9. Python Installation with Various IDEs
10. Python's Strengths and Weaknesses
11. Practical Applications of Python
12. Creating Your First Python Program
13. Output with Print Statements
14. User Input Handling
15. Command Line vs. GUI/IDE
16. Python Distribution Options

Different Modes in PYTHON

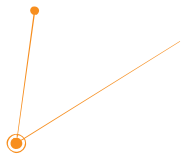
1. Executing Python Scripts
2. Interactive and Script Modes



3. Python File Extensions
4. Setting the PATH in Windows
5. Clearing the Screen in Python
6. Understanding the Python Main Function
7. Python Commenting
8. Exiting the Python Shell
9. Using the Python Shell as a Calculator
10. Order of Operations in Python
11. Multiline Statements in Python
12. Handling Quotations in Python
13. Testing Python Paths
14. Combining Lines in Python
15. Alternatives for Python Implementation
16. Exploring sub-packages in Python
17. Python's Role in Data Science and IoT
18. Python Across Different Operating Systems (Unix, Linux, Windows, Mac, Android..)

PYTHON New IDEs

1. PyCharm: An Introduction
2. Getting Started with PyCharm
3. Components of PyCharm
4. Debugging in PyCharm
5. Installing Anaconda for Python
6. Understanding Anaconda
7. Coding Environments
8. Exploring Spyder



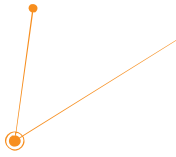
9. General Spyder Functionality
10. Spyder Keyboard Shortcuts
11. Introduction to Jupyter Notebook
12. Exploring Conda and Conda Lists
13. Jupyter Notebooks and Kernels
14. What is PIP?

Variables in PYTHON

1. Understanding Variables
2. Variables and Constants in Python
3. Variable Names and Values
4. Mnemonic Variable Naming
5. Exploring Values and Types
6. Significance of Data Types
7. Multiple Assignments in Python
8. Python's Numerical Data Types
9. Standard Data Types in Python
10. Operators and Operands
11. The Order of Operations
12. Swapping Variables
13. Mathematical Operations in Python
14. Type Conversion
15. Mutable vs. Immutable Objects

String Handling

1. Introduction to Strings
2. String Operations and Indexing



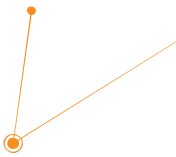
3. Fundamental String Operations
4. String Functions and Methods
5. Deleting a String
6. String Multiplication and Concatenation
7. Python Keywords, Identifiers, and Literals
8. String Formatting with Operators
9. Structuring Code with Python's Indentation
10. Built-in String Methods
11. Understanding Data Structures
12. Data Structures in Python

PYTHON Operators and Operands

1. Arithmetic, Relational, and Comparison Operators
2. Assignment Operators in Python
3. Shorthand Assignment Operators
4. Logical and Bitwise Operators
5. Membership Operators
6. Identity Operators
7. Operator Precedence
8. Expression Evaluation

PYTHON Conditional Statements

1. Using "if" in Conditional Structures
2. The "if" Statement for One-Way Decisions
3. Employing "if...else" for Two-Way Decisions
4. Understanding the "else" Condition
5. "if...elif...else" for Multi-Way Decisions



6. Handling Cases When "else" Doesn't Apply
7. Utilizing "elif" for Additional Conditions
8. Streamlining Conditional Statements
9. Nested "if" Statements

PYTHON LOOPS

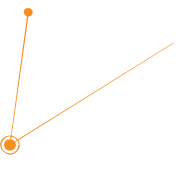
1. Working with While and For Loops
2. Using For Loops Beyond Numbers
3. Controlling Loops with Break and Continue
4. Leveraging the Enumerate Function in For Loops
5. Practical Loop Examples
6. Repeating Statements with For Loops
7. Mastery of Break and Continue Statements

Learning PYTHON Strings

1. Retrieving String Values
2. String Operators at Your Disposal
3. Additional String Examples
4. Python's String `replace()` Method
5. Transforming Letter Case in Strings
6. Harnessing the Power of the `Join` Function
7. String Reversal Techniques
8. Splitting Strings in Python

Sequence or Collections in PYTHON

1. Strings and Unicode Strings
2. Lists



3. Tuples

4. Buffers

5. xrange

PYTHON Lists

1. List Mutability

2. Introduction to Lists

3. Navigating List Indices

4. Iterating Through Lists

5. List Operations, Slicing, and Methods

6. Mapping, Filtering, and Reducing Lists

7. Removing List Elements

8. Interactions Between Lists and Strings

PYTHON TUPLE

1. Tuple Advantages Compared to Lists

2. Packing and Unpacking in Tuples

3. Tuple Comparison

4. Building Nested Tuples

5. Leveraging Tuples as Dictionary Keys

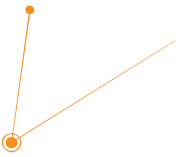
6. Removing Tuples

7. Slicing Tuples

8. Checking Tuple Membership

9. Built-in Functions for Tuples

10. Exploring Dotted Charts



PYTHON Sets

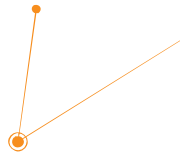
1. Creating Sets in Python
2. Iterating Through Sets
3. Set Methods in Python
4. Set Operations in Python
5. Union of Sets
6. Built-in Functions for Sets
7. Exploring Frozensets in Python

PYTHON Dictionary

1. Creating Dictionaries in Python
2. Python Hashing Mechanism
3. Dictionary Methods in Python
4. Copying Dictionaries
5. Updating Dictionary Entries
6. Deleting Dictionary Keys
7. Using the `items()` Method
8. Sorting Dictionaries
9. Built-in Functions for Dictionaries
10. Calculating Dictionary Length
11. Exploring Variable Types
12. Python's `cmp()` Method for Lists
13. Converting Dictionaries to Strings

PYTHON Functions

1. Understanding Functions
2. Defining and Calling Functions in Python
3. Different Types of Functions
4. The Importance of Indentation in Python

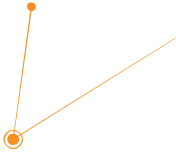


5. Returning Values from Functions
6. Varieties of Function Arguments
7. Default and Non-Default Arguments
8. Keyword and Non-Keyword Arguments
9. Handling Arbitrary Arguments
10. Rules for Function Definition in Python
11. Variations in Function Arguments
12. Variable Scope and Lifetime
13. Exploring Nested Functions
14. Call by Value vs. Call by Reference
15. Anonymous Functions (Lambda Functions)
16. Passing Functions as Arguments
17. Utilizing `map()`, `filter()`, and `reduce()` Functions
18. Understanding Docstrings

ADVANCE PYTHON

PYTHON Modules

1. Module Overview
2. Varieties of Modules
3. Using the `import` Statement
4. Utilizing the `from...import` Statement
5. The `..import *` Statement
6. The Role of Underscores in Python
7. Navigating with the `dir()` Function
8. Crafting User-Defined Modules
9. Handling Command-Line Arguments



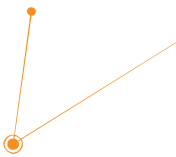
10. Python's Module Search Path

Packages in PYTHON

1. Package Essentials
2. Introduction to Python Packages
3. The .py File Extension
4. Importing Modules from Packages
5. Crafting Your Own Package
6. Constructing sub packages
7. Importing from sub packages
8. Notable Python Packages

PYTHON Date and Time

1. Working with Date and DateTime Classes
2. Formatting Time Output
3. Utilizing Timedelta Objects
4. Python's Calendar Functionality
5. Exploring DateTime Classes
6. Time Formatting Techniques
7. Delving into the Time Module
8. Python's Calendar Module
9. Text and HTML Calendars in Python
10. Unix Date and Time Commands

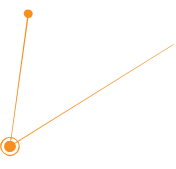


File Handling

1. Understanding Data and Information Files
2. File Objects in Python
3. Modes and Attributes of File Objects
4. Creating, Appending, and Reading Text Files
5. Properly Closing Files
6. Reading, Writing, and Managing Files
7. Renaming and Deleting Files
8. Python's Directory Operations
9. CSV File Manipulation with the CSV Module
10. Exception Handling for Input/Output Operations

PYTHON OS Module

1. Python Errors Overview
2. Common Runtime Errors in Python
3. Abnormal Termination
4. Exception Hierarchy
5. Exception Handling in Python
6. Employing Try and Except
7. Extending with Try, Except, and Else
8. Using Try and Finally
9. Exception Argument Handling
10. Creating Custom Python Exceptions
11. Error Ignoring Techniques
12. Assertions in Python
13. Effective Use of Assertions

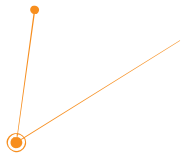


More Advanced PYTHON

1. Python Iterators
2. Generators in Python
3. Understanding Closures
4. Python Decorators
5. Python @property Decorator

PYTHON Class and Objects

1. Introduction to Object-Oriented Programming (OOP)
2. Key Concepts of OOP
3. Principles of OOP
4. Class Definitions
5. Creating Objects from Classes
6. Class Variables and Instance Variables
7. Constructors in OOP
8. Fundamentals of Objects and Classes
9. Access Modifiers in Python
10. Defining Python Classes
11. Understanding Python's Namespace
12. The Self-Variable in Python
13. Managing Garbage Collection
14. Exploring Inheritance and Its Types
15. How Inheritance Functions
16. Multiple Inheritance in Python
17. Overloading and Overriding
18. Polymorphism
19. Abstraction in OOP



20. Encapsulation

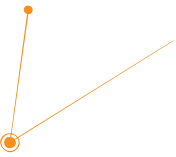
21. Built-In Class Attributes

PYTHON Regular Expressions

1. Regular Expressions: An Overview
2. Regular Expression Syntax
3. Grasping the Essence of Regular Expressions
4. Patterns in Regular Expressions
5. Handling Literal Characters
6. Managing Repetition Cases
7. Examples of ``w+`` and ``^`` Expressions
8. Applying ``\s`` Expression in ``re.split()`` Function
9. Utilizing Regular Expression Methods
10. The Power of ``re.match()``
11. Searching for Patterns with ``re.search()``
12. Text Pattern Extraction Using ``re.findall()``
13. Python Flags in Regular Expressions
14. Useful Methods for Regular Expressions

PYTHON XML Parser

1. XML Essentials
2. Comparing XML, HTML, XML, JSON, and Gson
3. Parsing XML and Manipulating XML Nodes
4. Python vs. Java
5. XML and HTML Comparisons



PYTHON Database Communication

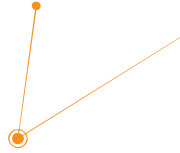
1. Understanding Databases and Their Types
2. Introduction to DBMS and RDBMS
3. The World of Big Data and Its Varieties
4. Oracle Database
5. MySQL Database
6. SQL Server Database
7. DB2 Database
8. PostgreSQL Database
9. Query Execution
10. Working with Bind Variables
11. Installing Python Modules for Oracle
12. Performing DML Operations

Multi-Threading

1. Understanding Multi-Threading
2. The Threading Module
3. Creating a Thread
4. Synchronizing Threads

Multi-Threading

1. Elements on a Web Page
2. Navigating BeautifulSoup
3. WebGurukul.co.in
4. Urllib2
5. HTML, CSS, JS, and jQuery



6. Dataframes
7. PIP (Python Package Index)
8. Installing External Modules with PIP

Unit Testing with PyUnit

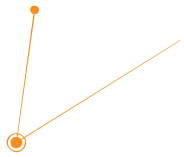
1. Introduction to Testing
2. Various Types of Testing and Their Methods
3. Understanding Unit Testing
4. Exploring PyUnit
5. Test Scenarios, Test Cases, and Test Suites

Introduction to PYTHON Web Frameworks

1. Django Framework: Design Principles.
2. Benefits of Using Django.
3. Comparing MVC and MVT Architectures.
4. Setting Up Django: Installation Guide.
5. Crafting Web Pages with Django.
6. Exploring Web Technologies: HTML5, CSS3, and AngularJS.
7. Python Web Frameworks: Flask, Bottle, Pyramid, and Falcon.

GUI Programming-Tkinter

1. Getting Started: An Introduction.
2. Understanding Components and Events.
3. Incorporating Controls into Your Interface.
4. Exploring Widgets: Entry, Text, Radio Buttons, and Check Buttons.
5. Working with Lists, Menus, and ComboBoxes.



Data Analytics

1. An Overview of Big Data.
2. Getting Started with NumPy and SciPy.
3. Introduction to Pandas and Matplotlib.

Introduction of Machine Learning with PYTHON

1. Machine Learning: An Introduction.
2. Approaches in Machine Learning.
3. Predictive Modeling in Machine Learning.
4. Descriptive Modeling in Machine Learning.
5. The Key Phases of Machine Learning
6. Deep Learning: An Exploration

Data Science

1. Defining Data Science: An Overview.
2. The Data Science Workflow.
3. Understanding Data Analysis and Data Mining.
4. Analytics Versus Data Science: A Comparative Exploration.

Internet of Things

1. The Internet's Influence on Society.
2. Understanding IoT: The Internet of Things.
3. Tracing the Evolution of IoT.
4. Exploring Networks, Protocols, and Smart Technology.
5. Unveiling the Mechanics of IoT.
6. Prospects and Trends in the IoT Landscape.

Features



Interview
Preparation



Live & Practical
Projects



1 Year of
Membership



Company Training
Certificate



**"Don't simply dream of success; instead,
put in the effort to achieve it."**

For More Information Contact Us:



+91-7387990061 | +91-7058669996



**Near Subhash Nagar Metro Station Nagpur: 1st Floor, Plot No.5, Subhash
Nagar, Nagpur 440022 (Landmark: In Front of Metro Pillar no. P150)**



edu@webgurukul.co.in



www.webgurukul.org