# Python Online Training





http://www.qatraininghub.com

#### ABOUT THE COURSE:

Python is one of flexible and open source language which is
easy to use and learn. Python has been used in scientific
computing and domains like finance, gas, oil and signal
processing. QA Training Hub Python Online Training not only
teaches fundamentals but also helps to gain experience on Data
Science.

### WHY LEARN PYTHON?

- It is continued to best choice for data scientists
- It runs on Windows, Linux or Mac OS

# **COURSE FEATURES:**

- Instructor Led Live Sessions
- Real life case studies
- Assignments
- Lifetime Access
- 24x7 Expert Assistance

# WHO SHOULD GO FOR THIS COURSE?

- Data Scientist & Data Analyst
- Programmers, developers, architects and technical leads
- Business Analysts
- Project Managers

# WHAT ARE PREREQUISITES?

- Basic understanding of computer programs
- Basics of Data Analysis Concepts

#### **COURSE CONTENT**

- Module I>> Introduction to Script
- What is SCRIPT
- What is a program?
- Types of Scripts
- Difference between Script & Programming Languages
- Features of Scripting
- Limitation of Scripting
- Types of programming Language Paradigms

- Module 2 >> Introduction to Python
- What is Python?
- Why Python?
- Who Uses Python?
- Characteristics of Python
- History of Python
- What is PSF?
- Python Versions
- How to Download

- How to Install Python
- Install Python with Diff IDEs
- Features of Python
- Limitations of Python
- Python Applications
- Creating Your First Python Program
- Printing to the Screen
- Reading Keyboard Input
- Using Command Prompt and GUI or IDE
- Python Distributions

- Module 3 >> Different Modes in PYTHON
- Execute the Script
- Interactive Mode
- Script Mode
- Python File Extensions
- SETTING PATH IN Windows
- Clear screen inside python
- Learn Python Main Function
- Python Comments
- Quit the Python Shell

- Shell as a Simple Calculator
- Order of operations
- Multiline Statements
- Quotations in Python
- Python Path Testing
- Joining two lines
- Python Implementation Alternatives
- Python Sub Packages
- Uses of Python in Data Science
- USES OF PYTHON IN IOT
- Working with Python in Unix/Linux/Windows/Mac/Android..!!

- Module 4 >> PYTHON NEW IDEs
- PyCharm IDE
- How to Work on PyCharm
- PyCharm Components
- Debugging process in PyCharm
- PYTHON Install Anaconda
- What is Anaconda?
- Coding Environments
- Spyder Components

- General Spyder Features
- Spyder Shortcut Keys
- Jupyter Notebook
- What is Conda?
- Conda List?
- Jupyter and Kernels
- What is PIP?

- Module 5 >> Variables in Python
- What is Variable?
- Variables in Python
- Constants in Python
- Variable and Value
- Variable names
- Mnemonic Variable Names
- Values and Types
- What Does "Type" Mean?

- Multiple Assignment
- Python different numerical types
- Standard Data Types
- Operators and Operands
- Order of Operations
- Swap variables
- Python Mathematics
- Type Conversion
- Mutable Versus Immutable Objects

- Module 6 >> String Handling in Python
- String Handling
- What is string?
- String operations
- String indices
- Basic String Operations
- String Functions, Methods
- Delete a string

- String Multiplication and concatenation
- Python Keywords
- Python Identifiers
- Python Literals
- String Formatting Operator
- Structuring with indentation in Python
- Built-in String Methods
- Define Data Structure?
- Data Structures in PYTHON

- Module 7 >> Python Operators and Operands
- Arithmetic Operators
- Relational Operators
- Comparison Operators
- Python Assignment Operators
- Short hand Assignment Operators
- Logical Operators or Bitwise Operators
- Membership Operators
- Identity Operators
- Operator precedence
- Evaluating Expressions

- Module 8 >> Python Conditional Statements:
- How to use "if condition" in conditional structures
- if statement (One-Way Decisions)
- if .. else statement (Two-way Decisions)
- How to use "else condition"
- if .. elif .. else statement (Multi-way)
- When "else condition" does not work
- How to use "elif" condition
- How to execute conditional statement with minimal code
- Nested IF Statement

- Module 9 >> Python LOOPS
- How to use "While Loop"
- How to use "For Loop"
- How to use For Loop for set of other things besides numbers
- Break statements in For Loop
- Continue statement in For Loop
- Enumerate function for For Loop
- Practical Example
- How to use for loop to repeat the same statement over and again
- Break, continue statements

- Module 10 >>Learning Python Strings
- Accessing Values in Strings
- Various String Operators
- Some more examples
- Python String replace() Method
- Changing upper and lower case strings
- Using "join" function for the string
- Reversing String
- Split Strings

- Module II >>Sequence or Collections in PYTHON
- Strings
- Unicode Strings
- Lists
- Tuples
- buffers
- xrange

- Module 12 >>Python Lists
- Lists are mutable
- Getting to Lists
- List indices
- Traversing a list
- List operations
- List slices
- List methods
- Map, filter and reduce
- Deleting elements
- Lists and strings

#### Module 13 >>Python TUPLE

- Advantages of Tuple over List
- Packing and Unpacking
- Comparing tuples
- Creating nested tuple
- Using tuples as keys in dictionaries
- Deleting Tuples
- Slicing of Tuple
- Tuple Membership Test
- Built-in functions with Tuple
- Dotted Charts

- Module 14 >> Python Sets
- How to create a set?
- Iteration Over Sets
- Python Set Methods
- Python Set Operations
- Union of sets
- Built-in Functions with Set
- Python Frozenset

- Module 15 >> Python Dictionary
- How to create a dictionary?
- PYTHON HASHING?
- Python Dictionary Methods
- Copying dictionary
- Updating Dictionary
- Delete Keys from the dictionary

- Dictionary items() Method
- Sorting the Dictionary
- Python Dictionary in-built Functions
- Dictionary len() Method
- Variable Types
- Python List cmp() Method
- Dictionary Str(dict)

- Module 16 >> Python Functions
- What is a function?
- How to define and call a function in Python
- Types of Functions
- Significance of Indentation (Space) in Python
- How Function Return Value?
- Types of Arguments in Functions
- Default Arguments

- Non-Default Arguments
- Keyword Arguments
- Non-keyword Arguments
- Arbitrary Arguments
- Rules to define a function in Python
- Various Forms of Function Arguments
- Scope and Lifetime of variables
- Nested Functions
- Call By Value, Call by Reference
- Anonymous Functions/Lambda functions
- Passing functions to function
- map(), filter(), reduce() functions
- What is a Docstring?

- Module 17 >> Python Modules
- What is a Module?
- Types of Modules
- The import Statement
- The from...import Statement
- from...import \* Statement
- Underscores in Python
- The dir() Function
- Creating User defined Modules
- Command line Arguments
- Python Module Search Path

- Module 18 >> Packages in Python
- What is a Package?
- Introduction to Packages?
- \_\_\_init\_\_\_.py file
- Importing module from a package
- Creating a Package
- Creating Sub Package
- Importing from Sub-Packages
- Popular Python Packages

- Module 19 >> Python Date & Time
- Python Date & Time
- How to Use Date & DateTime Class
- How to Format Time Output
- How to use Timedelta Objects
- Calendar in Python
- datetime classes in Python
- How to Format Time Output?

- The time Module
- Python Calendar Module
- Python TextCalendar
- Python HTMLCalendar Class
- Unix Date and Time Commands

- Module 20 >>File Handling in Python
- What is a data, Information File?
- File Objects
- File Different Modes
- file Object Attributes
- How to create a Text File
- How to Append Data to a File
- How to Read a File

- Closing a file
- Read, read line, read lines, write, write lines...!!
- Renaming and Deleting Files
- Directories in Python
- Working with CSV files
- Working with CSV Module
- Handling IO Exceptions

- Module 21 >> Python OS Module
- Shell Script Commands
- Various OS operations in Python
- Python File System Shell Methods

- Module 22 >> Python Exception Handling
- Python Exception Handling
- Python Errors
- Common RunTime Errors in PYTHON
- Abnormal termination
- Chain of importance Of Exception
- Exception Handling
- Try ... Except
- Try .. Except .. else

- Try ... finally
- Argument of an Exception
- Python Custom Exceptions
- Ignore Errors
- Assertions
- UsingAssertionsEffectively

- Module 23 >> More Advanced PYTHON
- Python Iterators
- Python Generators
- Python Closures
- Python Decorators
- Python @property

- Module 24 >> Python Class & Objects
- Introduction to OOPs Programming
- Object Oriented Programming System
- OOPS Principles
- Define Classes
- Creating Objects
- Class variables and Instance Variables Constructors
- Basic concept of Object and Classes
- Access Modifiers
- How to define Python classes

- Python Namespace
- Self-variable in python
- Garbage Collection
- What is Inheritance? Types of Inheritance?
- How Inheritance works?
- Python Multiple Inheritance
- Overloading and Over Riding
- Polymorphism
- Abstraction
- Encapsulation
- Built-In Class Attributes

- Module 25 >> Python Regular Expressions
- What is Regular Expression?
- Regular Expression Syntax
- Understanding Regular Expressions
- Regular Expression Patterns
- Literal characters
- Repetition Cases
- Example of w+ and ^ Expression
- Example of \s expression in re.split function
- Using regular expression methods
- Using re.match()
- Finding Pattern in Text (re.search())
- Using re.findall for text

- Module 26 >> Python XML Parser
- What is XML?
- Difference between XML and HTML
- Difference between XML and JSON and Gson
- How to Parse XML
- How to Create XML Node
- Python vs JAVA
- XML and HTML

- Module 27 >> Python-Data Base Communication
- What is Database? Types of Databases?
- What is DBMS?
- What is RDBMS?
- What is Big Data? Types of data?
- Oracle
- MySQL
- SQL server
- Executing the Queries
- Executing DML Operations..!!

- Module 28 >> Multi-Threading
- What is Multi-Threading
- Threading Module
- Defining a Thread
- Thread Synchronization
- Serial Programming

- Module 29 >>Intro to Web scrapping
- The components of a web page
- BeautifulSoup
- HTML,CSS,JS,jQuery
- Dataframes
- Installing External Modules Using PIP

- Module 30 >>Intro to Data Analytics
- Introduction to data Big Data?
- Introduction to NumPY and SciPY
- Introduction to Pandas and MatPlotLib

- Module 31 >>Introduction to Machine Learning with PYTHON
- What is Machine learning?
- Machine Learning Methods
- Predictive Models
- Descriptive Models
- What are the steps used in Machine Learning?
- What is Deep Learning?

- Module 32 >>Intro to Data Science
- Intro to Data Science
- What is Data Science?
- Data Science Life Cycle?
- What is Data Analysis
- What is Data Mining
- Analytics vs Data Science

- Module 33 >>Intro to Internet of Things
- IMPACT OF THE INTERNET
- What is IOT
- History of IoT
- What is Network?
- What is Protocol?
- What is smart?
- How IoT Works?
- The Future of IoT





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