Python Certification Training Course

This Python training program will give you a solid understanding of how to develop and implement your own Python Projects using various python libraries, it also covers details of how you can develop data science and web applications using Python. It consists of modules designed by industry experts using numerous hands-on exercises and case studies. This course enhances your logical thinking and more over equips you with the necessary skills in **Numpy, Pandas, Matplotlib, Flask, Tkinter,BeautifulSoup, Folium, Requests, Bokeh libraries**. Along with all of this course contains projects solving and code challenges.

Syllabus

Module-1:Introduction to Python

- Need for Python Programming
- Advantages of Programming
- Overview of Python
- Organizations using Python
- Python Applications in Various Domains
- Python Installation
- Jupyter Note book installation
- Learn to use Interactive Note Book
- Variables
- Operands and Expressions

Module-2: Python Data Types
- Declaring and using Numeric data types
- Using string data type and string operations
- Defining list and list slicing
- Use of Tuple data type

Hands-On
- Tuple - Properties, Related Operations
- List - Properties, Related Operations

Module-3: Python Program Flow Control
- Conditional blocks using if, else and elseif
- Simple For loops in python
- For loop using ranges, string, list and dictionaries
- Use of while loops in python Loop

Hands-On
- Using conditional statements for real time use cases
- Using loops to iterate over lists and tuples

Module-4: Python String, List And Dictionary Manipulations
- Building blocks of python programs
- Understanding string in build methods
- List manipulation using in build methods
- Dictionary manipulation
- Programming using string, list and dictionary in build functions

Hands-On
- File Handling
- Dictionary - Properties, Related Operations
- Set - Properties, Related Operations
- String – Properties, Related Operations

Module-5 : Python File Operation
- Reading config files in Python
- Writing log files in Python
- Understanding read functions, read(), readline() and readlines()
- Understanding write functions, write() and writelines()
- Manipulating file pointer using seek Programming using file operations

Hands-On
- Read and Write operations on files
- Practicing all the file operations

Module-6 : Python Functions, Modules And Packages

- Organizing python codes using functions
- User-Defined Functions
- Concept of Return Statement
- Concept of __name__=" __main__"
- Function Parameters
- Different Types of Arguments
- Global Variables
- Global Keyword
- Variable Scope and Returning Values
- Lambda Functions
- Various Built-In Functions
- Organizing python projects into modules
- Importing own module as well as external modules
- Understanding Packages
- Powerful Lambda function in python Programming using functions, modules and external packages

Hands-On

- Functions - Syntax, Arguments, Keyword Arguments, and Return Values
- Lambda - Features, Syntax, Options
- Built-In Functions

Module-7:Deep Dive – Functions and OOPs Topics

- Introduction to Object-Oriented Concepts
- Built-In Class Attributes
- Public, Protected and Private Attributes, and Methods
- Class Variable and Instance Variable
- Constructor and Destructor
- Decorator in Python
- Core Object-Oriented Principles
- Inheritance and Its Types
- Method Resolution Order
- Overloading
- Overriding
- Getter and Setter Methods
- Inheritance-In-Class Case Study

Hands-On

- Python Object-Oriented Concepts Applications
- Python Object-Oriented Core Principles and Its Applications
- Inheritance Case Study

Module-8: Python Regular Expression

- Powerful pattern matching and searching
- Power of pattern searching using regex in Python
- Real time parsing of networking or system data using regex
- Password, email, url validation using regular expression
- Pattern finding programs using regular expression

Module-9 : Python Exception Handling

- Avoiding code break using exception handling
- Safeguarding file operation using exception handling
- Handling and helping developer with error code
- Programming using Exception handling

Module-10: Python Multithreading

- Understanding threads
- Forking threads
- Synchronising the threads
- Programming using multithreadi

Module-11:Contacting User Through Emails Using Python

- Installing SMTP Python module
- Sending email
- Reading from file and sending emails to all users addressing them directly for marketing

Module-12: Introduction to NumPy

- Basics of Data Analysis
- NumPy - Arrays
- Operations on Arrays
- Indexing Slicing and Iterating
- NumPy Array Attributes
- Matrix Product
- NumPy Functions
- Functions
- Array Manipulation
- File Handling Using NumPy

Hands-On

- Matrix Product and Aggregate Functions using Numpy
- Array Creation and Logic Functions
- File Handling Using Numpy

Module-13: Data Manipulation using pandas

- Introduction to pandas
- Data structures in pandas
- Series
- Data Frames
- Importing and Exporting Files in Python
- Basic Functionalities of a Data Object
- Merging of Data Objects
- Concatenation of Data Objects
- Types of Joins on Data Objects
- Data Cleaning using pandas
- Exploring Datasets

Hands-On

- Functionality of Series
- The Functionality of Data Frame
- Combining Data from Dataset
- Cleaning Data

Module-14 : Data Visualisation using Matplotlib

- Why Data Visualisation?
- Matplotlib Library
- Line Plots
- Multiline Plots
- Bar Plot
- Histogram
- Pie Chart
- Scatter Plot
- Boxplot
- Saving Charts
- Customising Visualisations
- Saving Plots
- Grids
- Subplots

Hands-On

- Plotting Different Types of Charts
- Customising Visualisations Using Matplotlib
- Customising Visualisations and Subplots

Module-15: GUI Programming

- Tkinter Package
- Text Widgets
- Window Widget
- Button Widget
- Label Widget
- Entry Widget
- Slider Widget
- Radio Button Widget
- Geometry Managers
- Creating a GUI Application

Hands-On

- Creating GUI Elements
- Creating an application containing GUI elements

Module-16 :Developing Web Maps and Representing Information using Plots

- Use of Folium Library
- Use of Pandas Library
- Flow Chart of Web Map Application
- Developing Web Map Using Folium and Pandas
- Reading Information from Titanic Dataset and Represent It Using Plots

Module-17:Data Visualization and Web Scraping

- Beautiful Soup Library
- Requests Library
- Scrap All Hyperlinks from a Webpage Using Beautiful Soup and Requests
- Plotting Charts Using Bokeh
- Plotting Scatter Plots Using Bokeh

Module-18:Web Development using Flask Framework

- Installing Flask
- Creating a Base Application
- Using HTML templates
- Creating websites and deploying web app

Course Projects, Industry Projects
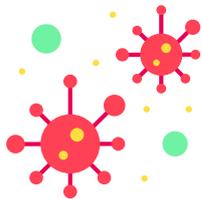
Dice Rolling Simulator

Contact Book

Calculator

Customer Review Analysis

Covid-19 Impacts Analysis

Uber Trips Analysis

Iris flower data visualization

Scrapping stocks data

Tools

python™

NumPy

pandas

colab

jupyter

matplotlib

Requests
http for humans

BeautifulSoup

bokeh

Flask

Folium

TKINTER
GUI FOR PYTHON

Why enroll for Python Certification Course?

Python is the most preferred language for new technologies such as Data Science and Machine Learning

A Senior Python Developer with Python Certification earns an average salary of $109,280 per year, according to PayScale.com

Python is the future of AI and Machine Learning – Adrian Rosebrock, author of the book, 'Deep Learning for Computer Vision with Python'

Course Fee:

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