Python

Overview: **Python** is a general-purpose interpreted, interactive, object-oriented, and high-level programming language. It was created by Guido van Rossum during 1985- 1990. Like Perl, Python source code is also available under the GNU General Public License (GPL). This **tutorial** gives enough understanding on **Python programming** language.

Python is a MUST for students and working professionals to become a great Software Engineer especially when they are working in Web Development Domain. I will list down some of the key advantages of learning Python:

Course Objectives

- Understand the python and technical concepts behind python
- Structure a python application in modules
- Understand and use the Modules
- Understand packages
- Understand the built-in modules Json, Date time, Regular Expression
- Use camel case packages
- Understanding file handling and exception handling
- Connect to mySQL database

Module 1: - **Fundamentals of Python**

- Introduction to Python
- Running Python Programs
- Writing Python Code

Module 2: - Working with Data

- Data Types and Variables
- Using Numeric Variables
- Using String Variables

Module 3: - Input and Output

- Printing with Parameters
- Getting Input from a User
- String Formatting

Module 4: - Operators

- Arithmetic operators
- Assignment operators
- Comparison operators

- Logical operators
- Identity operators
- Membership operators
- Bitwise operators

Module 5: - Making Decisions

- Logical Expressions
- The “if” Statement
- Logical Operators
- More Complex Expressions

Module 6: - Finding and Fixing Problems

- Types of Errors
- Troubleshooting Tools
- Using the Python Debugger

Module 7: - Lists and Loops

- Lists and Tuples
- List Functions
- “For” Loop
- “While” Loops
- Sets and Dictionary

Module 8: - Numeric and Date Functions

- Dates and Times
- Advanced Data and Time Management
- Random Numbers
- The Math Library

Module 9: - Working with Strings

- Character Data
- String Functions
- Input Validation with “try / except”

Module 10: - Functions

- Writing and Calling Functions
- Function Inputs and Outputs
- Local and Global Scope
- Lambda functions and recursive function

Module 11: - Python Classes

- Thinking about Objects
- Class Variables and Methods
- Managing Class Files

Module 12: - Class Instances

- Creating Objects with Instance Data
- Instance Methods
- Managing Objects

Module 13: - Modules

- Creating modules
- Use Module
- Built-in Modules

Module 14: - PIP

- What are packages?
- Install packages
- Uninstall Packages
- Download and Remove package
- Example

Module 15: - File Handling

- Handling Files
- Read and Write files
- Delete files
- Files Mode

Module 16: - Exception Handling

- Handling Exception
- Try catch block
- Finally block

Module 17: - Database Connection

- Create database with MYSQL
- Create tables
- Select, Insert and Delete data

At the end of the course participants will be able to do some assignments

- DEMO WEB APPLICATION (SHOPTING CART)