

Module 1: Introduction to Python

- What can Python do?
- Why Python?
- Good to know
- Python Syntax compared to other programming languages
- Python Install

Module 2: Python Basics

- The print statement
- Comments
- Python Data Structures & Data Types
- String Operations in Python
- Simple Input & Output
- Simple Output Formatting
- Operators in python

Module 3: Python Program Flow

- Indentation
- The If statement
- An example with if statement
- The while loop
- The for loop
- The range statement
- Break &Continue
- Assert
- Examples for looping

Module 4: Functions & Modules

- Create your own functions
- Functions Parameters
- Variable Arguments
- Scope of a Function
- Function Documentations
- Lambda Functions & map
- Exercise with functions
- Create a Standard Module

Module 5: Exceptions Handling

- Errors
- Exception handling with try
- handling Multiple Exceptions
- Writing your own Exception

Module 6: File Handling

- File handling Modes
- Reading Files
- Writing& Appending to Files
- Handling File Exceptions
- The with statement

Module 7: Classes In Python

- New Style Classes
- Creating Classes
- Instance Methods
- Inheritance
- Polymorphism
- Exception Classes & Custom Exceptions

Module 8: Generators and iterators

- Iterators
- Generators
- The Functions any and all
- With Statement
- Data Compression

Module 9: Data Structures

- List Comprehensions
- Nested List Comprehensions
- Dictionary Comprehensions
- Functions
- Default Parameters
- Variable Arguments
- Specialized Sorts

Module 10: Collections

- namedtuple()
- deque
- ChainMap
- Counter
- OrderedDict
- defaultdict
- UserDict
- UserList
- UserString

Module 11: Writing GUIs in Python (Tkinter)

- Introduction
- Components and Events
- An Example GUI
- The root Component
- Adding a Button
- Entry Widgets
- Text Widgets
- Check buttons

Module 12: Python SQL Database Access

- Introduction
- Installation
- DB Connection
- Creating DB Table
- INSERT, READ, UPDATE, DELETE operations
- COMMIT & ROLLBACK operation
- handling Errors

Module 13: Network Programming

- Introduction
- A Daytime Server
- Clients and Servers
- The Client Program
- The Server Program

Module 14: Date and Time

- sleep
- Program execution time
- more methods on date/time
- Filter
- Map
- Reduce
- Decorators
- Frozen set
- Collections

Module 15: Regular Expression

- Split
- Working with special characters, date, emails
- Quantifiers
- Match and find all
- character sequence and substitute
- Search method

Module 16: Threads ESSENTIAL

- Class and threads
- Multi-threading
- Synchronization
- Treads Life cycle
- use cases

Module 17: Accessing API ESSENTIAL

- Introduction
- Facebook Messenger
- Openweather

Module 18: DJANGO

- Django Overview
- Django Installation
- Creating a Project
- Usage of Project in depth Discussion
- Creating an Application
- Understanding Folder Structure
- Creating a Hello World Page
- Database and Views
- Static Files and Forms
- API and Security