

Python with Fuzzy Logic, Threading and Multiprocessing

Prerequisites:

- Basic knowledge of Python and any programming language

Module 1: Python Refresher

- Introduction to Python
- Data Types and Variables
- Functions
- Conditional Statements
- Loops
- Data Structures

Module 2: Higher Order Functions

- Map
- Filter
- Lambda
- Reduce
- Python Decorators
- Generators
- Iterators
- Itertools

Module 3: Regular Expression

- Introduction to Regex
- Syntax and Patterns
- Searching and Matching

Module 4: Date Time Module

- Time Module
- DateTime Module

Module 5: Exception Handling

- Try-Except Block
- Exception Hierarchies

Module 6: Object Oriented Python

- Introduction to Object Oriented Python
- Creating Classes, Methods and Objects
- Using Constructor and Attributes

Module 7: Python for Data Analysis - NumPy

- Introduction of NumPy
- NumPy Array
- NumPy Array Indexing
- NumPy Operations

Module 8: Python for Data Analysis - Pandas

- Introduction to Pandas
- Series
- DataFrames
- Missing Data
- Merging Joining and Concatenating
- Operations
- Data Input and Output

Module 9: Multiprocessing and Threading

- Differences Between Multiprocessing, Parallelism, and Concurrency
- Using threading and multiprocessing Modules

Module 10: Fuzzy Logic in Python

- Basics of Fuzzy Logic
- Applications of Fuzzy Logic
- Implementing Fuzzy Logic in Python
- Using skfuzzy Library

Module 11: Programmer Tools

- PEP 8 Guidelines
- Using pylint
- Testing code
- Profiling for code optimization