

Introduction to Python for Data Analysis

3 days

Introduction

- History of Python
- Downloading and installing Python
- Editors and IDE
- A first program

Storing and processing data

- Names and references
- Data types
- Operators, functions and methods
- Booleans and conditions

Collections

- Data collections
- Lists
- Changing and extracting data
- Others type of collections

Loops

- Looping through lists
- Looping through other collections
- Comprehensions

Functions

- Structuring programs
- Passing arguments
- Returning values
- Function calls

Debugging and tests

- Interpreting error messages
- Debuggers
- Unit tests

Object Oriented Programming

- Defining new classes
- Constructors
- Normal and dunder methods
- Overloading operators
- Inheritance

Modules

- Importing custom modules
- Preventing code execution

Data analysis with Numpy and Pandas

- Numpy numerical datatypes and arrays
- Numpy mathematical functions and statistics
- Pandas Series and Dataframes
- Importing and cleaning up data with Pandas
- Strings manipulations
- Selections and slices
- Combining datasets
- Aggregate functions
- Data visualization and plotting with matplotlib