

Automating Repetitive Tasks with Python

Module 1- Python Basics

- ENTERING EXPRESSIONS INTO THE INTERACTIVE SHELL
- THE INTEGER, FLOATING-POINT, AND STRING DATA TYPES
- STRING CONCATENATION AND REPLICATION
- STORING VALUES IN VARIABLES
- YOUR FIRST PROGRAM
- DISSECTING YOUR PROGRAM
- *The print() Function*
- *The input() Function*
- *The Len() Function*
- *The str(), int(), and float() Functions*

Module 2- Flow Control

- Boolean Values
- Comparison Operators
- Elements of Flow control
- Flow control Statements
- Break and continue statements
- For loops and range function
- Importing modules
- Demonstration programs

Module 3 - Functions

- Def statements with parameters
- Def,call,pass,arguments,parameters
- Return Values and Return Statements
- The None value
- Keyword arguments and The Print function
- The Call Stack
- Local and Global Scope
- The Global Statement
- Exception Handling
- Program Demonstration

Module 4 - Lists

- The List data Type
- Getting individual values in a List with Indexes
- Changing values in a List
- List concatenation and List Replication
- Working with Lists
- Augmented Assignment Operators
- Methods in List
- Sequence Data types
- Mutable and Immutable Data types
- The tuple data type
- Passing references
- Program demonstration

Module 5 – Dictionaries and Structuring Data

- The Dictionary Data type
- Keys(),values(),Items() Methods
- Get() method
- Pretty printing (pprint) module
- Using data structures to model real world cases
- Nested dictionaries and lists

Module 6 – Manipulating strings

- Working with Strings
- Escape characters
- Indexing and slicing strings
- Useful strings methods
- Using ORD() and CHR() functions
- Program demonstration

Module 7 – Pattern matching and regular expressions

- Finding patterns of text without regular expressions
- Finding patterns of text with regular expressions
- More pattern matching
- Character class
- Wild card character
- Using sub() method
- Managing complex regexes
- Program demonstration

Module 8 – Input Validation

- The PyInputPlus module
- The min,max,greaterThan, and less Than Keyword Arguments
- Limit , timeout, and default Keyword arguments

- The allowRegexes and blockRegexes Keyword arguments
- Passing a Custom Validation Function to inputCustom()
- Program demonstration

Module 9 – Reading and writing files

- Files and file paths
- Absolute and relative paths
- Modifying list of files using Glob Patterns
- File reading/writing process
- Saving variables with Shelve module
- Using PPrint.Pformat() Function
- Program demonstration

Module 10 – Organizing Files

- The SHUTIL module
- Walking a directory tree
- Zipfile module
- Program demonstration

Module 11 - Debugging

- Raising Exceptions
- Assertions
- Logging
- Mu's debugger
- Program demonstration

Module 12– Web Scrapping

- MapIT.py module
- Working with HTML
- Using developer tools to find HTML Elements
- Parsing HTML using BS4 module
- Program demonstrations

Module 13– Working with excel spreadsheets

- Installing OpenPyXL Module
- Opening, Reading excel document
- Working with columns and rows
- Program demonstration

Module 14– Working with Google Sheet

- Installing and setting up EZ sheets
- Spreadsheet objects
- Spreadsheet attributes
- Sheet Objects
- Reading / writing columns and rows
- Creating and deleting sheets
- Working with google sheets quotas
- Program demonstration

Module 15– Working with PDF and word documents

- Extracting text from pdf
- Decrypting pdf
- Creating pdf
- Encrypting pdf
- Program demonstrations
- Reading word documents
- Creating word documents
- Creating pdf from word documents
- Program demonstrations

Module 16– Working with CSV files and JSON data

- CSV Module
- Reader objects
- Reading data from Reader objects in a for Loop
- Writer objects
- DictReader and DictWriter CSV Objects
- Program demonstration
- JSON and APIs
- JSON Module
- Reading and writing JSON using functions
- Program description

Module 17– TimeKeeping , Task Organization, and Program Starting

- Time Module
- Programs using functions of time module
- Date Time Module
- Time Delta Data type
- Converting datetime objects into strings
- Converting strings into datetime objects
- Review of python time functions
- Multithreading
- Launching other programs from python
- Program demonstrations

Module 18– Sending Email and text messages

- Sending and receiving Email with the Gmail API
- SMTP
- Connecting to an SMTP Server
- Sending SMTP message
- IMAP
- Retrieving and deleting Emails with IMAP
- Connecting to IMAP Server
- Performing Search
- Working with body, source of an email
- Sending Text messages with SMS Email Gateways
- Sending text messages with TWILIO
- Program demonstrations

Module 19– Manipulating images

- Computer Image fundamentals
- Working with image data type
- Program demonstrations
- Drawing on Images
- Drawing shapes
- Drawing text
- Program demonstrations

Module 20–Efficient GUI Automation : Streamlining Tasks with Keyboard and Mouse control

- Installing PyAutoGUI Module
- Controlling mouse movements
- Controlling mouse interaction
- Planning your mouse movements
- Working with the screen
- Image recognition
- Getting window information
- Controlling the keyboard
- Setting up your GUI Automation Scripts
- Review of PyAutoGUI Functions
- Program Demonstration
- Displaying Message boxes
- Program demonstrations