

Basic Python Programming

Lesson-1: Understanding Programming

1. Computer Hardware Architecture
2. Understanding Programming
3. Words & Sentences
4. Conversing with Python
5. What is a Program?
6. Building Blocks of a Program
7. Program Errors

Lesson-2: Python Overview & Setting Up Python

1. What is Python?
2. Python Features
3. Getting Python
4. Installing Python
5. Setting Up Python
6. Running Python:
 - a. Interactive Interpreter
 - b. Script From Command Line
 - c. Integrated Development Environment (IDE)

Lesson-3: Python Basic Syntax

1. First Python Program
2. Interactive & Script Mode Programming
3. Python identifiers
4. Reserved Words
5. Lines & Indentation
6. Multi-line statements
7. Quotation in Python
8. Comments in Python
9. Multiple Statements in a Single Line

Lesson-4: Variables, Expressions & Statements

1. Values & Types
2. Variables
3. Variable names & Keywords
4. Statements
5. Operators & Operands
6. Expressions
7. Order of Operations
8. Modulus Operator
9. String operations
10. Asking the User Inputs
11. Choosing mnemonic Variable Names

Lesson-5: Conditional Execution & Decision Making

1. Boolean Expressions
2. Logical Operators

3. Conditional Execution : **if** Statement
4. Alternate Execution: **else** Statement
5. Chained Conditionals: **if..elif..else** Statement
6. Nested Conditionals
7. Catching Exceptions: **try & except** Statement

Lesson-6: Functions

1. Why Functions?
2. Function Calls
3. Built In Functions
4. Type Conversion Functions
5. Random Numbers
6. Math Functions
7. Defining & Using New Functions
8. Parameters & Arguments
9. Function Return Types: Fruitful & Void Functions

Lesson-7: Iterations/Loops

1. Updating Variables
2. **While** Loop
3. Infinite Loops
4. Infinite Loops & **break**
5. Finishing Iterations using **continue**
6. **For** Loop
7. Loop Patterns
 - a. Counting & Summing Loop
 - b. Maximum & Minimum Loop

Lesson-8: Strings

1. String Sequence
2. Getting Length of String using **len**
3. Traversal through a String using loop
4. String Slices
5. Strings are Immutable
6. Looping & Counting
7. The **in** Operator
8. String Comparison
9. Updating Strings
10. String Special Operators
11. String Functions
12. String Formatting Operators
13. Parsing Strings

Lesson-9: Files

1. Opening Files
2. Test Files & Lines
3. Reading Files
4. Searching Through a File
5. Letting the User choose the File Name
6. **Try, except & open**

7. Writing Files

Lesson-10: Lists

1. Python Lists
2. Accessing Values in a List
3. Updating Lists
4. Delete List Elements
5. List Operators
6. List Slices
7. List Functions
8. List & Functions
9. Lists & Strings
10. Parsing Lines
11. Objects & Values
12. Aliasing
13. List Arguments

Lesson-11: Dictionaries

1. Python Dictionaries
2. Accessing Values in a Dictionary
3. Updating Dictionary
4. Delete Dictionary Elements
5. Dictionaries & Files
6. Looping & Dictionaries
7. Advanced Text Parsing
8. Built in Dictionary Functions
9. Dictionary Methods

Lesson-12: Tuples

1. Python Tuples
2. Accessing Values in a Tuple
3. Updating Tuples
4. Deleting Tuple Elements
5. Comparing Tuples
6. Tuple Assignment
7. Indexing, Slicing & Matrixes
8. Basic Tuple Operations
9. Dictionaries & Tuples
10. Multiple Assignment with Dictionaries
11. Using Tuples as Keys in Dictionaries

Lesson-13: Python Date & Time

1. Tick
2. Time Tuple
3. Getting Current Time
4. Getting Formatted Time
5. Getting Calendar for a Month
6. The *time* Module
7. The *Calendar* Module