

Python Programming

Chapter 1: Introduction to Data, Expressions and Statements

- 1.1 Introduction to Python and Installation
- 1.2 Data Types: Integer (int)
- 1.3 Float
- 1.4 Boolean
- 1.5 String
- 1.6 List
- 1.7 Variables
- 1.8 Expressions
- 1.9 Statements
- 1.10 Operator Precedence
- 1.11 Comments
- 1.12 Modules
- 1.13 Functions
- 1.14 Flow of Execution in Python
- 1.15 Parameters and Arguments in Python

Chapter 2: Control Flow and Loops

- 2.1 Control Flow and Loops: Boolean Values and Operators
- 2.2 Conditional Statements in Python: if Statement
- 2.3 Alternative Decision Making: if-else Statement
- 2.4 Chained Conditional: if-elif-else
- 2.5 Iteration: While, For and Nested For Loop
- 2.6 Break, Continue and Pass Statements

Chapter 3: Functions and Arrays

- 3.1 Fruitful Functions
- 3.2 Return Values in Python
- 3.3 Parameters and Arguments
- 3.4 Local and Global Scope
- 3.5 Function Composition
- 3.6 Recursive Functions
- 3.7 Strings: String Slices

- 3.8 Immutability
- 3.9 String Functions and Methods
- 3.10 String Module
- 3.11 Python Arrays
- 3.12 Accessing Elements of an Array and Array Methods

Chapter 4: Lists, Tuples and Dictionaries

- 4.1 List
- 4.2 List Operations
- 4.3 List Methods
- 4.4 List Looping
- 4.5 Mutability in Python
- 4.6 Aliasing in Python
- 4.7 Cloning Lists in Python
- 4.8 List Parameters
- 4.9 List Comprehension
- 4.10 Tuples
- 4.11 Tuple Assignment
- 4.12 Tuples as Return Values
- 4.13 Tuple Comprehension
- 4.14 Dictionaries
- 4.15 Operations and Methods

Chapter 5: Files, Exceptions, Modules and Packages

- 5.1 Files and Exceptions: Text Files
- 5.2 Reading and Writing Files
- 5.3 Command Line Arguments
- 5.4 Errors and Exceptions
- 5.5 Handling Exceptions
- 5.6 Modules (Including Date, Time, os, calendar, math)
- 5.7 Exploring Python Packages