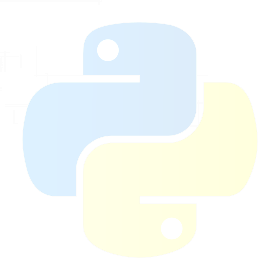


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PYTHON PROGRAMMING

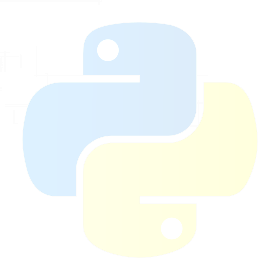
COURSE CONTENT

Duration : 2 Days



**Day - 1**

1. Introduction

* WHAT IS PYTHON?
  + INSTALLATION OF PYTHON
  + WHERE IS PYTHON USED?
  + HISTORY OF PYTHON
* VARIABLES AND DATA TYPES IN PYTHON
  + VARIABLE DECLARATION AND ASSIGNMENT
  + VARIABLE NAMING CONVENTIONS
  + KEYWORDS IN PYTHON
  + TYPE() FUNCTION
* PYTHON BASICS
  + NUMBERS AND STRINGS
  + PRINT AND INPUT FUNCTIONS
* OPERATORS IN PYTHON
  + ARITHMETIC OPERATORS
  + COMPARISON AND RELATIONAL OPERATOR
  + ASSIGNMENT OPERATOR
  + MEMBERSHIP OPERATOR
  + LOGICAL OPERATOR
  + BITWISE OPERATOR

2. String Datatype in Python

* INDEXING IN STRINGS

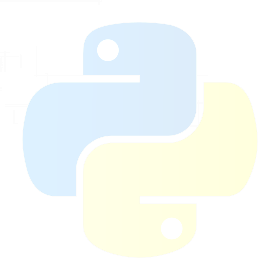
o PROPERTIES OF STRING OBJECTS

* SLICING IN STRINGS
* WORKING WITH DIFFERENT STRING METHODS
  + DIR(STR) – LEARNING ALL STRING BUILT-IN FUNCTIONS

3. Control flow statements

* CONDITIONAL STATEMENTS
* THE IF STATEMENT
* IF WITH ELSE CONDITION
* THE ELIF STATEMENT
* NESTED IF-ELSE BLOCK
* PYTHON – FOR LOOP
  + FOR LOOP WITH IF
  + REPETITION USING FOR LOOP: RANGE () FUNCTION
* PYTHON – WHILE LOOP
  + WRITING AN INFINITE LOOP
* LOOP CONTROL KEYWORDS: BREAK, CONTINUE, PASS

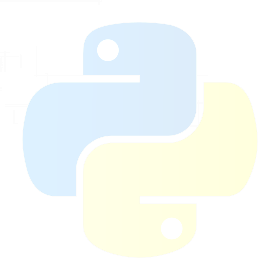
4. Data Structures

* LIST DATA TYPE IN PYTHON
* DIR(LIST) – LEARNING ALL LIST BUILT-IN FUNCTIONS
* LIST SLICING AND RANGE() FUNCTION
* LIST COMPREHENSION
* TUPLE DATA TYPE IN PYTHON
  + DIR(TUPLE) – LEARNING ALL TUPLE BUILT-IN FUNCTIONS
  + ONE VALUE TUPLE
* DICTIONARY DATA TYPE IN PYTHON
  + PROPERTIES OF DICTIONARY OBJECTS
  + DIR(DICT) – LEARNING ALL DICTIONARY BUILT-IN FUNCTIONS
  + USE OF DICTIONARY AS A DATABASES
* SET DATA TYPE IN PYTHON
  + DIR(SET) – LEARNING ALL SET BUILT-IN FUNCTIONS
  + NON DUPLICATE NATURE OF SETS

5. User Defined Functions

* INTRODUCTION TO FUNCTIONS
* FUNCTIONS WITHOUT PARAMETERS
* FUNCTIONS WITH PARAMETERS
* RETURN STATEMENT IN FUNCTIONS
* \*ARGS AND \*\*KWARGS
* MODULES AND PACKAGES
* DOCUMENTATION STRING / SPECIAL METHOD ( DOC )
* IMPORT STATEMENTS

6. File Handling

* WORKING WITH TXT FILES
  + FILE OBJECTS AND MODES OF FILE OPERATIONS
  + READING, WRITING AND USE OF 'WITH' KEYWORD
  + READ(), READLINE(), READLINES(), SEEK(), TELL() METHODS
* WORKING WITH CSV FILES
  + READER() AND WRITER() METHODS
  + HOW TO WORK WITH FILES IN REAL-TIME
  + USE OF FOR LOOP TO READ THE DATA FROM THE READER() OBJECT

**Day - 2**

7. Exception Handling in Python

* UNDERSTANDING EXCEPTIONS

o TRY, EXCEPT, ELSE AND FINALLY

* RAISING EXCEPTIONS WITH: RAISE
* CREATING YOUR OWN EXCEPTION CLASSES

8. Database connectivity with Python

* WORKING WITH BASIC SQL QUERIES
* CREATE TABLE
* INSERT ROW
* SELECT COMMAND
* CONNECTION OF PYTHON WITH SQLITE3 DATABASE

9. Email Sending Automation

* SENDING EMAIL USING GMAIL
* UNDERSTANDING SMTP
* SENDING EMAIL WITH SENDMAIL() FUNCTION

10. Regular Expressions

* RE MODULE
* PATTERN MATCHING
* FINDALL() METHOD

10. Data Science Libraries

* NUMPY
* PANDAS
* MATPLOTLIB