



**ONLINE  
TRAINING**

# PYTHON

**Course Curriculum**





# PYTHON BASIC TOC

1. Variables
2. Comments
3. Receiving Input
4. Strings
5. Arithmetic Operations
6. If Statements
7. Comparison operators
8. While loops
9. For loops
10. Lists
11. Tuples
12. Dictionaries
13. Functions
14. Exceptions
15. Classes
16. Inheritance
17. Modules
18. Packages
19. Python Standard Library
20. Pypi
21. Want to Become a Python Expert?



# PYTHON ADVANCE TOC

## PYTHON 3 – BASIC TUTORIAL

1. What is New?
2. The `__future__` module
3. The print Function
4. Reading Input from Keyboard
5. Integer Division
6. Unicode Representation
7. `xrange()` Function Removed
8. Raise Exceprion
9. Arguments in Exceptions
10. `next()` Function and `.next()`
11. Method
11. 2to3 Utility





# OVERVIEW

1. History of Python
2. Python Features





# ENVIRONMENT SETUP

1. Local Environment Setup
2. Getting Python
3. Setting up PATH
4. Setting Path at Unix/Linux
5. Setting Path at Windows
6. Python Environment Variables
7. Running Python







# BASIC SYNTAX

1. First Python Program
2. Python Identifiers
3. Reserved Words
4. Lines and Indentation
5. Multi-Line Statements
6. Quotation in Python
7. Comments in Python
8. Using Blank Lines
9. Waiting for the User
10. Multiple Statements on a Single Line
11. Multiple Statement Groups as Suites
12. Command Line Arguments
13. Parsing Command-Line Arguments





# VARIABLE TYPES

1. Assigning Values to Variables
2. Multiple Assignment
3. Standard Data Types
4. Python Numbers
5. Python Strings
6. Python Lists
7. Python Tuples
8. Python Dictionary
9. Data Type Conversion





# BASIC OPERATORS

1. Types of Operator
2. Python Arithmetic Operators
3. Python Comparison Operators
4. Python Assignment Operators
5. Python Bitwise Operators
6. Python Logical Operators
7. Python Membership Operators
8. Python Identity Operators
9. Python Operators Precedence







# DECISION MAKING

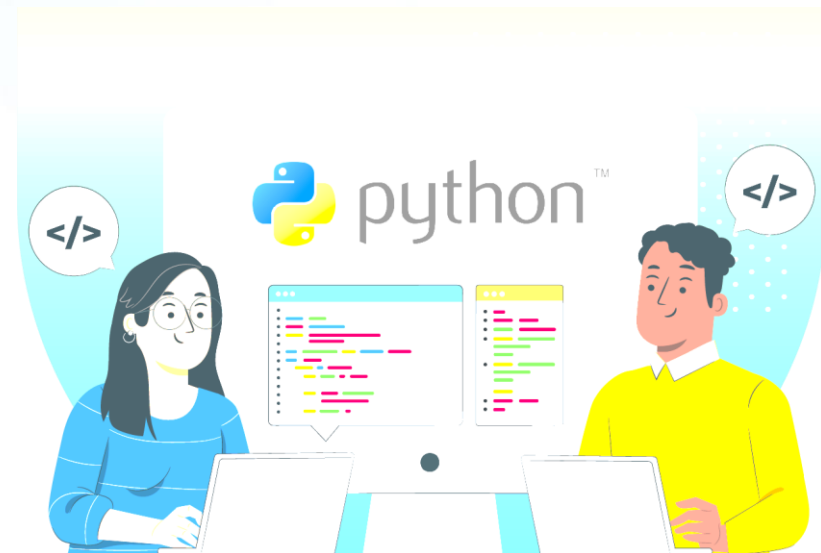
1. IF Statement
2. IF.ELIF.ELSE Statements
3. Nested IF Statements
4. Single Statement Suites





# LOOPS

1. While Loop Statements
2. For Loop Statements
3. Nested Loops
4. Loop Control Statements
5. Break Statement
6. Continue Statement
7. Pass Statement
8. Iterator And Generator





# MATHEMATICAL FUNCTIONS

1. Number `abs()` Method
2. Number `ceil()` Method
3. Number `exp()` Method
4. Number `fabs()` Method
5. Number `floor()` Method
6. Number `log()` Method
7. Number `log10()` Method
8. Number `max()` Method
9. Number `min()` Method
10. Number `modf()` Method
11. Number `pow()` Method
12. Number `round()` Method
13. Number `sqrt()` Method
14. Random Number Functions
15. Number `choice()` Method
16. Number `randrange()` Method
17. Number `random()` Method
18. Number `seed()` Method
19. Number `shuffle()` Method
20. Number `uniform()` Method
21. Trigonometric Functions
22. Number `acos()` Method
23. Number `asin()` Method
24. Number `atan()` Method
25. Number `atan2()` Method
26. Number `cos()` Method
27. Number `hypot()` Method
28. Number `sin()` Method
29. Number `tan()` Method
30. Number `degrees()` Method
31. Number `radians()` Method
32. Mathematical Constants



# STRINGS

1. Accessing Values in Strings
2. Updating Strings
3. Escape Characters
4. String Special Operators
5. String Formatting Operator
6. Triple Quotes
7. Unicode String
8. String capitalize() Method
9. String center() Method
10. String count() Method
11. String decode() Method
12. String encode() Method
13. String endswith() Method
14. String expandtabs() Method
15. String find() Method
16. String index() Method
17. String isalnum() Method
18. String isalpha() Method
19. String isdigit() Method
20. String islower() Method
21. String isnumeric() Method
22. String isspace() Method
23. String istitle() Method
24. String isupper() Method
25. String join() Method
26. String len() Method
27. String ljust() Method
28. String lower() Method





29. String lstrip() Method
30. String maketrans() Method
31. String max() Method
32. String min() Method
33. String replace() Method
34. String rfind() Method
35. String rindex() Method
36. String rjust() Method
37. String rstrip() Method
38. String split() Method
39. String splitlines() Method
40. String startswith() Method
41. String strip() Method
42. String swapcase() Method
43. String title() Method
44. String translate() Method
45. String upper() Method
46. String zfill() Method
47. String isdecimal() Method





# LISTS

1. Python Lists
2. Accessing Values in Lists
3. Updating Lists
4. Delete List Elements
5. Basic List Operations
6. Indexing, Slicing and Matrixes
7. Built-in List Functions & Methods
8. List len() Method
9. List max() Method
10. List min() Method
11. List list() Method
12. List append() Method
13. List count() Method
14. List extend() Method
15. List index() Method
16. List insert() Method
17. List pop() Method
18. List remove() Method
19. List reverse() Method
20. List sort() Method





# TUPLES

1. Accessing Values in Tuples
2. Updating Tuples
3. Delete Tuple Elements
4. Basic Tuples Operations
5. Indexing, Slicing, and Matrixes
6. No Enclosing Delimiters
7. Built-in Tuple Functions
8. Tuple len() Method
9. Tuple max() Method
10. Tuple min() Method
11. Tuple tuple() Method





# DICTIONARY

1. Accessing Values in Dictionary
2. Updating Dictionary
3. Delete Dictionary Elements
4. Properties of Dictionary Keys
5. Built-in Dictionary Functions & Methods
6. Dictionary len() Method
7. Dictionary str() Method
8. Dictionary type() Method
9. Dictionary clear() Method
10. Dictionary copy() Method
11. Dictionary fromkeys() Method
12. Dictionary get() Method
13. Dictionary items() Method
14. Dictionary keys() Method
15. Dictionary setdefault() Method
16. Dictionary update() Method
17. Dictionary values() Method







# DATE & TIME

1. What is Tick?
2. What is TimeTuple?
3. Getting current time
4. Getting formatted time
5. Getting calendar for a month
6. The time Module
7. Time altzone() Method
8. Time asctime() Method
9. Time clock() Method
10. Time ctime() Method
11. Time gmtime() Method
12. Time localtime() Method
13. Time mktime() Method
14. Time sleep() Method
15. Time strftime() Method
16. Time strptime() Method
17. Time time() Method
18. Time tzset() Method
19. The calendar Module
20. Other Modules & Functions





# FUNCTIONS

1. Defining a Function
2. Calling a Function
3. Pass by Reference vs Value
4. Function Arguments
5. Required Arguments
6. Keyword Arguments
7. Default Arguments
8. Variable-length Arguments
9. The Anonymous Functions
10. The return Statement
11. Global vs. Local variables





# MODULES

1. The import Statement
2. The from .import Statement
3. The from .import \* Statement
4. Executing Modules as Scripts
5. Locating Modules
6. The PYTHONPATH Variable
7. Namespaces and Scoping
8. The dir() Function
9. The globals() and locals() Functions
10. The reload() Function
11. Packages in Python





# FILES I/O

1. Printing to the Screen
2. Reading Keyboard Input
3. The input Function
4. Opening and Closing Files
5. The open Function
6. The file Object Attributes
7. The close() Method
8. Reading and Writing Files
9. The write() Method
10. The read() Method
11. File Positions
12. Renaming and Deleting Files
13. The rename() Method
14. The remove() Method
15. Directories in Python
16. The mkdir() Method
17. The chdir() Method
18. The getcwd() Method
19. The rmdir() Method
20. File & Directory Related Methods
21. File Methods
22. File close() Method
23. File flush() Method
24. File fileno() Method
25. File isatty() Method
26. File next() Method
27. File read() Method





28. File readline() Method
29. File readlines() Method
30. File seek() Method
31. File tell() Method
32. File truncate() Method
33. File write() Method
34. File writelines() Method
35. OS File/Directory Methods
36. os.access() Method
37. os.chdir() Method
38. os.chflags() Method
39. os.chmod() Method
40. os.chown() Method
41. os.chroot() Method
42. Python os.close() Method
43. os.closerange() Method
44. os.dup() Method
45. os.dup2() Method
46. os.fchdir() Method
47. os.fchmod() Method
48. os.fchown() Method
49. os.fdatasync() Method
50. os.fdopen() Method
51. os.fpathconf() Method
52. os.fstat() Method
53. os.fstatvfs() Method
54. os.fsync() Method



55. `os.ftruncate()` Method
56. `os.getcwd()` Method
57. `os.getcwdu()` Method
58. `os.isatty()` Method
59. `os.lchflags()` Method
60. `os.lchown()` Method
61. `os.link()` Method
62. `os.listdir()` Method
63. `os.lseek()` Method
64. `os.lstat()` Method
65. `os.major()` Method
66. `os.makedev()` Method
67. `os.makedirs()` Method
68. `os.minor()` Method
69. `os.mkdir()` Method
70. `os.mkfifo()` Method
71. `os.mknod()` Method
72. `os.open()` Method
73. `os.openpty()` Method
74. `os.pathconf()` Method
75. `os.pipe()` Method
76. `os.popen()` Method
77. `os.read()` Method
78. `os.readlink()` Method
79. `os.remove()` Method
80. `os.removedirs()` Method
81. `os.rename()` Method



# EXCEPTIONS HANDLING

1. Standard Exceptions
2. Assertions in Python
3. What is Exception?
4. Handling an Exception
5. The except Clause with No Exceptions
6. The except Clause with Multiple Exceptions
7. The try-finally Clause
8. Argument of an Exception
9. Raising an Exception
10. User-Defined Exceptions





# OBJECT ORIENTED

1. Overview of OOP Terminology
2. Creating Classes
3. Creating Instance Objects
4. Accessing Attributes
5. Built-In Class Attributes
6. Destroying Objects (Garbage Collection)
7. Class Inheritance
8. Overriding Methods
9. Base Overloading Methods
10. Overloading Operators
11. Data Hiding







# REGULAR EXPRESSIONS

1. The match Function
2. The search Function
3. Matching Versus Searching
4. Search and Replace
5. Regular Expression Modifiers:  
Option Flags
6. Regular Expression Patterns
7. Regular Expression Examples
8. Character classes
9. Special Character Classes
10. Repetition Cases
11. Nongreedy Repetition
12. Grouping with Parentheses
13. Back References
14. Alternatives
15. Anchors
16. Special Syntax with Parentheses





# CGI PROGRAMMING

1. What is CGI?
2. Web Browsing
3. CGI Architecture Diagram
4. Web Server Support and Configuration
5. First CGI Program
6. HTTP Header
7. CGI Environment Variables
8. GET and POST Methods
9. Passing Information using GET method
10. Simple URL Example – Get Method
11. Simple FORM Example – GET Method
12. Passing Radio Button Data to CGI Program
13. Passing Text Area Data to CGI Program.
14. Passing Drop Down Box Data to CGI Program
15. Using Cookies in CGI
16. How It Works?
17. Setting up Cookies
18. Retrieving Cookies
19. File Upload Example
20. How To Raise a "File Download" Dialog Box ?



# MYSQL DATABASE ACCESS

1. What is PyMySQL ?
2. How do I Install PyMySQL?
3. Database Connection
4. Creating Database Table
5. INSERT Operation
6. READ Operation
7. Update Operation
8. DELETE Operation
9. Performing Transactions
10. COMMIT Operation
11. ROLLBACK Operation
12. Disconnecting Database
13. Handling Errors





# NETWORK PROGRAMMING

1. What is Sockets?
2. The socket Module
3. Server Socket Methods
4. Client Socket Methods
5. General Socket Methods
6. A Simple Server
7. A Simple Client
8. Python Internet Modules
9. Further Readings







# SENDING EMAIL USING SMTP

1. Sending An HTML E-mail Using Python
2. Sending Attachments As An E-mail





# MULTITHREADED PROGRAMMING

1. Starting a New Thread
2. The Threading Module
3. Creating Thread Using Threading Module
4. Synchronizing Threads
5. Multithreaded Priority Queue





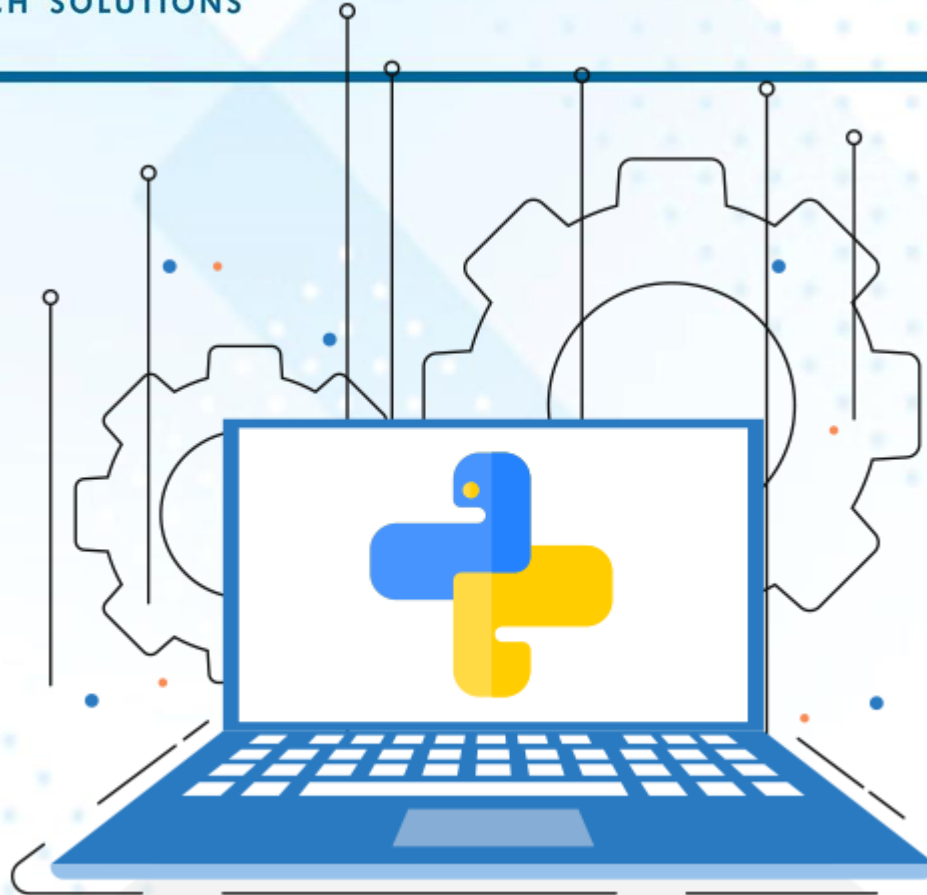
# XML PROCESSING

1. What is XML?
2. XML Parser Architectures and APIs
3. Parsing XML with SAX APIs
4. The make\_parser Method
5. The parse Method
6. The parseString Method
7. Parsing XML with DOM APIs





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