

Important Topics in Python

String

What is String in Python? How to create a string in Python?

How to access characters in a string?

How to change or delete a string?

Concatenation of Two or More Strings

Slice a String in Python

Iterating Through String Loop

Membership (not in)

Search Functions

What are Common Python String Methods?

Lists

Define Python list. How lists differ from Tuples.

What are the list operations?

What are the different ways to create a list?

How to slice a list in Python?

Show the membership operators used in list.

Can you use the addition assignment operator, +=, with two lists? What is the result?

Write a program to illustrate the heterogeneous list.

Illustrate List comprehension with suitable examples

Tuple

Define Python Tuple. How to instantiate a Tuple in Python?

What are the advantages of Tuple over list and difference between list and tuple?

Classify the Python accessing elements in a Tuples.

Point out the methods used in Tuples

How a Tuple is iterated? Explain with an example.

Explain how Tuples are used as return values?

Write a program to check whether an element 'y' and 'a' belongs to the tuple My_tuple = ('p','y','t','h','o','n') and after printing the result, delete the Tuple.

How to modify/update a tuple in Python?

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Tuple with single integer value

How to remove/delete a tuple in Python?

Dictionary

Define dictionary with an example and How we can Create Dictionaries.

Explain the properties of Dictionary keys with examples.

Explain the operations for dynamically manipulating dictionaries.

Explain Dictionary object methods get (), remove (), pop (), update ().

How to Access Elements direct key search and using method

How to Iterate Dictionary

What is Dictionary Comprehension?

Set

What is a Set in Python? How to create a set?

How to initialize and modify a Set in Python?

How to delete single or multiple elements from a set in Python?

What are Union operation and Intersection operation

Explain difference and Symmetric_difference Operation on the Set

How to access data elements in a Set?

How to perform a membership (in) test in a Set?

Set methods add (), update (), difference (). Intersection (), union (), symmetric_difference (), clear ().

Mathematical operation $a \mid b$, $a \& b$, $a \wedge b$, $a - b$ etc.

Lambda Function

What is lambda in Python? Explain Syntax with an Example

How lambda function can be used with filter and map.

Exception Handling

What are the Exceptions in Programming?

Discuss about try except block with example.

Else in try-except-else

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Catch multiple exceptions in one except block and different-different statement lines

What is the use of [finally clause].How finally work with try-except-finally

Built in exception EOFError, FileNotFoundError, IndexError, NameError, ValueError, KeyError

Assertion and Raise with example

File Handling

What does file handling mean?

Write a Python program to demonstrate the file I/O operations

Discuss with suitable examples

i) open a File.

ii) Writing to a File and close the file

Tabulate the different modes for opening a file and explain the same

1. open(file, access mode) 2. read() 3. readline() 4. readlines() 5. write() 6. writelines() 7. writable() 8. readable() 9. close()

access mode

r, r+, w, w+, a, a+

attributes

file.mode

file.name

file.closed

some important questions

count the alphabet,digit and special char

count number of words and lines

check two file identical

modified the file with some other value

copy contents

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Random Module

- Generate random numbers for various distributions including integer and floats.
- Random Sampling and choose elements from the population.
- Functions of the random module.
- Shuffle the sequence data. Seed the random generator.
- Generate random strings and passwords.
- Cryptographically secure random generator using a secrets module. Generate secure tokens, security keys, and URL
- How to set the state of a random generator.
- Use random to generate random arrays list.
- Use the UUID module to generate unique IDs