Python Tuple DataType Concepts & Methods Interview Questions

1. What is tuple in Python?

A tuple is a collection data type in Python that is ordered, indexed, and immutable, meaning its values cannot be changed after creation.

2. How to create and get the length of Python tuples?

Create: t = (1, 2, 3)

Length: len(t) returns 3

3. How do you create a single element tuple in Python?

Add a comma after the single element:

t = (5,) # This is a tuple

t = (5)   # This is just an integer

4. How do you create a multiple elements tuple in Python?

t = (1, 2, 3, 4)

5. How do you access the elements from a tuple in Python?

Using indexing:

t = (10, 20, 30)

print(t[1]) # Output: 20

6. How do you check the length of a tuple in Python?

Use len() function:

len((1, 2, 3)) # Output: 3

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7. What is use of tuple slicing in Python?

Tuple slicing is used to access a range of items:

t = (0, 1, 2, 3, 4, 5)

print(t[1:4]) # Output: (1, 2, 3)

8. How can you concatenate two tuples in Python?

Using + operator:

a = (1, 2)

b = (3, 4)

c = a + b # (1, 2, 3, 4)

9. What is tuple packing & unpacking? Can you give me some Examples?

Packing: t = 1, 2, 3

Unpacking: a, b, c = t

10. What are some common tuple methods in Python?

count(x) - returns the count of x

index(x) - returns the index of first occurrence of x

11. How to converting other type objects into tuple type?

Use tuple() function:

tuple([1, 2, 3]) # Converts list to tuple

tuple("abc")   # ('a', 'b', 'c')

12. How to creating empty tuple object in python?

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t = ()

13. Is tuple mutable or immutable type object? Why ?

Immutable, because once created, its items cannot be modified.

14. Is tuple allows duplicate values and unique indexing?

Yes, tuples allow duplicate values and use unique indexes to access elements.

15. How do you access individual elements from a tuple object?

Using index:

t = (10, 20, 30)

print(t[0]) # 10

16. Can you change the tuple values?

No, tuples are immutable - their values can't be changed.

17. How to delete or remove items from Tuples?

You cannot delete individual items, but you can delete the whole tuple:

del t

18. How to Create and Access a nested tuple?

t = (1, (2, 3), 4)

print(t[1])   # (2, 3)

print(t[1][0]) # 2

19. How to access items of tuple in a reverse order?

Using slicing:

t = (1, 2, 3)

print(t[::-1]) # (3, 2, 1)

20. How to check if Items are present/exist in Tuple?

Using in keyword:

t = (1, 2, 3)

print(2 in t) # True