

Python Tuple Questions by Infosmart Solutions

1. Create a tuple and print its elements using a for loop.

Test Case 1:

- Input: t = (1, 2, 3)
- Expected Output: 1
2
3

Test Case 2:

- Input: t = ('a', 'b')
- Expected Output: a
b

Test Case 3:

- Input: t = ()
- Expected Output: (prints nothing)

2. Write a Python program to find the index of a given element in a tuple.

Test Case 1:

- Input: t = (10, 20, 30), element = 20
- Expected Output: 1

Test Case 2:

- Input: t = ('x', 'y', 'z'), element = 'z'
- Expected Output: 2

Test Case 3:

- Input: t = (1, 2), element = 5
- Expected Output: ValueError

3. Write a program to convert a tuple into a list and modify it.

Test Case 1:

- Input: t = (1, 2, 3)

- Expected Output: List: [1, 2, 3] → after append(4): [1, 2, 3, 4]

Test Case 2:

- Input: t = ('a', 'b')
- Expected Output: List: ['a', 'b'] → after remove('a'): ['b']

Test Case 3:

- Input: t = ()
- Expected Output: List: []

4. Write a Python code to find the length of a tuple.

Test Case 1:

- Input: (1, 2, 3, 4)
- Expected Output: 4

Test Case 2:

- Input: ()
- Expected Output: 0

Test Case 3:

- Input: ('a',)
- Expected Output: 1

5. Write a Python program to count the occurrences of an element in a tuple.

Test Case 1:

- Input: t = (1, 2, 2, 3), element = 2
- Expected Output: 2

Test Case 2:

- Input: t = ('x', 'y', 'x', 'x'), element = 'x'
- Expected Output: 3

Test Case 3:

- Input: t = (1, 2, 3), element = 5
- Expected Output: 0

6. Write a Python code to find the sum of elements in a numeric tuple.

Test Case 1:

- Input: (1, 2, 3, 4)
- Expected Output: 10

Test Case 2:

- Input: (10,)
- Expected Output: 10

Test Case 3:

- Input: ()
- Expected Output: 0

7. Write a Python program to check if an element exists in a tuple.

Test Case 1:

- Input: t = (1, 2, 3), element = 2
- Expected Output: True

Test Case 2:

- Input: t = ('a', 'b'), element = 'c'
- Expected Output: False

Test Case 3:

- Input: t = (), element = 1
- Expected Output: False

8. Write a Python code to concatenate two tuples.

Test Case 1:

- Input: (1, 2) + (3, 4)
- Expected Output: (1, 2, 3, 4)

Test Case 2:

- Input: ('x',) + ('y', 'z')
- Expected Output: ('x', 'y', 'z')

Test Case 3:

- Input: () + (1, 2)
- Expected Output: (1, 2)

9. Write a Python program to convert a list of tuples into a dictionary.

Test Case 1:

- Input: [('a', 1), ('b', 2)]
- Expected Output: {'a': 1, 'b': 2}

Test Case 2:

- Input: []
- Expected Output: {}

Test Case 3:

- Input: [('x', 5), ('x', 10)]
- Expected Output: {'x': 10}

10. Write a Python code to find repeated elements in a tuple.

Test Case 1:

- Input: (1, 2, 2, 3, 3, 3)
- Expected Output: [2, 3]

Test Case 2:

- Input: ('a', 'b', 'a')
- Expected Output: ['a']

Test Case 3:

- Input: (1, 2, 3)
- Expected Output: []

11. Write a program to demonstrate tuple unpacking in Python.

Test Case 1:

- Input: t = (1, 2, 3)
- Expected Output: a=1, b=2, c=3

Test Case 2:

- Input: t = ('x', 'y')
- Expected Output: ValueError (too few values to unpack)

Test Case 3:

- Input: t = (1, 2, 3, 4)
- Expected Output: ValueError (too many values to unpack)

12. Write a Python program to sort a list of tuples by the second element.

Test Case 1:

- Input: [(1,2), (3,1), (5,0)]
- Expected Output: [(5,0), (3,1), (1,2)]

Test Case 2:

- Input: [('a',5), ('b',2)]
- Expected Output: [('b',2), ('a',5)]

Test Case 3:

- Input: []
- Expected Output: []

13. Write a Python program to find the index of an element in a tuple (alternate version).

Test Case 1:

- Input: t = ('apple', 'banana', 'cherry'), element = 'banana'
- Expected Output: 1

Test Case 2:

- Input: t = (1, 1, 1), element = 1
- Expected Output: 0

Test Case 3:

- Input: t = (), element = 5
- Expected Output: ValueError

14. Write a Python program to check if two tuples are identical.

Test Case 1:

- Input: t1 = (1,2,3), t2 = (1,2,3)
- Expected Output: True

Test Case 2:

- Input: t1 = (1,2), t2 = (2,1)
- Expected Output: False

Test Case 3:

- Input: t1 = (), t2 = ()
- Expected Output: True

15. Write a Python program to find the maximum and minimum values in a numeric tuple.

Test Case 1:

- Input: (1,2,3,4,5)
- Expected Output: max=5, min=1

Test Case 2:

- Input: (10,)
- Expected Output: max=10, min=10

Test Case 3:

- Input: ()
- Expected Output: ValueError

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