

# Tuple Assignment

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1. Find the size of a tuple.

Sample Input: (1, 2, 3, 4, 5)

Sample Output: 20 bytes

2. Add a tuple to a list and vice-versa.

Sample Input: List: [1, 2, 3], Tuple: (4, 5)

Sample Output: List: [1, 2, 3, (4, 5)], Tuple: (1, 2, 3, 4, 5)

3. Find maximum and minimum K elements in a tuple.

Sample Input: Tuple: (5, 10, 15, 20), K = 2

Sample Output: Max K elements: (20, 15), Min K elements: (5, 10)

4. Create a list of tuples with numbers and their cubes.

Sample Input: List: [1, 2, 3]

Sample Output: [(1, 1), (2, 8), (3, 27)]

5. Remove all tuples of a specific length K.

Sample Input: List: [(1, 2), (3, 4, 5), (6,)], K = 2

Sample Output: [(3, 4, 5), (6,)]

6. Extract digits from a tuple list.

Sample Input: [(123, 456), (789, 0)]

Sample Output: [1, 2, 3, 4, 5, 6, 7, 8, 9, 0]

7. Find all pair combinations of two tuples.

Sample Input: Tuple1: (1, 2), Tuple2: (3, 4)

Sample Output: [(1, 3), (1, 4), (2, 3), (2, 4)]

8. Join tuples with similar initial elements.

Sample Input: [(1, 2), (1, 3), (2, 4)]

Sample Output: [(1, 2, 3), (2, 4)]

9. Sort a list of tuples by the second item.

Sample Input: [(2, 5), (1, 3), (4, 2)]

Sample Output: [(4, 2), (1, 3), (2, 5)]

10. Sort a list of tuples by the last element.

Sample Input: [(1, 3, 2), (5, 1, 4), (2, 6, 0)]

Sample Output: [(2, 6, 0), (1, 3, 2), (5, 1, 4)]

11. Sort tuples by the frequency of their absolute difference.

Sample Input: [(1, 5), (2, 6), (4, 8)]

Sample Output: [(1, 5), (2, 6), (4, 8)] (sorted by the absolute difference 4)

12. Remove duplicate tuples regardless of order.

Sample Input: [(1, 2), (2, 1), (3, 4)]

Sample Output: [(1, 2), (3, 4)]

**13. Order tuples by a list.**

**Sample Input:** Tuples: [(2, 'b'), (1, 'a')], Order: [1, 2]

**Sample Output:** [(1, 'a'), (2, 'b')]

**14. Concatenate maximum tuples.**

**Sample Input:** [(1, 2), (3, 4)], (5, 6)

**Sample Output:** (1, 2, 3, 4, 5, 6)

**15. Flatten a tuple of lists to a tuple.**

**Sample Input:** ([1, 2], [3, 4], [5, 6])

**Sample Output:** (1, 2, 3, 4, 5, 6)

**16. Change the sign of elements in a tuple list.**

**Sample Input:** [(1, -2), (3, -4)]

**Sample Output:** [(-1, 2), (-3, 4)]

**17. Convert integer values in a list of tuples to floats.**

**Sample Input:** [(1, 2), (3, 4)]

**Sample Output:** [(1.0, 2.0), (3.0, 4.0)]

**18. Convert sets to tuples and vice-versa.**

**Sample Input:** Set: {1, 2, 3}

**Sample Output:** Tuple: (1, 2, 3)

**19. Restrict tuples by the frequency of the first element's value.**

**Sample Input:** [(1, 2), (1, 3), (2, 4)]

**Sample Output:** [(1, 2), (1, 3)]

**20. Extract tuples having K-digit elements.**

**Sample Input:** [(123, 45), (6, 789)], K = 2

**Sample Output:** [(123, 45)]