

1. What is a tuple in programming?
2. How is a tuple different from a list?
3. Can a tuple contain elements of different data types?
4. How do you create an empty tuple?
5. Explain the concept of tuple packing and unpacking.
6. Write Python code to create a tuple containing the names of three of your favorite fruits.
7. Explain the immutability of tuples. Why are tuples immutable?
8. How can you access a specific element in a tuple?
9. Given two tuples, how would you concatenate them into a single tuple?
10. Write a Python code that takes a tuple of numbers as input and returns the sum of those numbers.
11. Given a tuple (name, age, city), how would you unpack it into three separate variables?
12. Given a tuple (1, 2, 3, 4, 5), how would you slice it to get a new tuple (2, 3, 4)?
13. Can you create a tuple with just one element? If so, how would you do it?
14. Given a tuple (3, 7, 2, 7, 1), how many times does the number 7 appear?
15. Create two tuples: one with the numbers 1 through 5 and another with the same numbers in reverse order. Then, concatenate these tuples.
16. Given a tuple (10, 20, 30, 40, 50), use slicing to extract a new tuple containing the second and third elements.
17. How would you get the last two elements from a tuple (5, 10, 15, 20) using slicing?
18. Given a tuple (2, 4, 6, 8, 10), find the index of the element 6.
19. How would you use the sorted() function to sort a tuple (5, 1, 8, 2) in ascending order?
20. Can you modify an element within a tuple after it has been created? Why or why not?
21. If you have a list of names and want to ensure that it remains unchanged, would you use a list or a tuple?
22. Create a tuple containing your name and age, then unpack it into two variables.

23. Given a tuple (3.14, "apple", True), how would you unpack it into three variables?
24. List at least two advantages of using a tuple over a list in certain situations.
25. Explain a scenario where using a list would be more appropriate than using a tuple.