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1  1. A list contains names of boys and girls as its elements. Boys' names are stored as
   tuples. Write a program to find out number of boys and girls in the list. (Hint: use
   isinstance(ele,tuple))
2  Code:
3  data = [("John",), "Alice", ("Mike",), "Emma", ("Tom",)] # Mixed list
4  boys_count = sum(1 for ele in data if isinstance(ele, tuple))
5  girls_count = len(data) - boys_count
6  print("Number of boys:", boys_count)
7  print("Number of girls:", girls_count)
8  OUTPUT
9  Number of boys: 3
10 Number of girls: 2
11
12 2. A list contains tuples containing roll no., name and age of student. Write a python
   program to create three lists separately for roll no., name and age
13 INPUT
14 students = [(1, "John", 15), (2, "Alice", 14), (3, "Emma", 16)]
15 roll_numbers = [student[0] for student in students]
16 names = [student[1] for student in students]
17 ages = [student[2] for student in students]
18 print("Roll Numbers:", roll_numbers)
19 print("Names:", names)
20 print("Ages:", ages)
21 OUTPUT
22 Roll Numbers: [1, 2, 3]
23 Names: ['John', 'Alice', 'Emma']
24 Ages: [15, 14, 16]
25
26 3. Suppose a date is represented as a tuple (d, m, y). Create two date tuples and find
   the number of days between the two dates.
27 INPUT
28 from datetime import date
29
30 date1 = (24, 3, 2025)
31 date2 = (10, 1, 2025)
32
33 d1 = date(date1[2], date1[1], date1[0])
34 d2 = date(date2[2], date2[1], date2[0])
35
36 days_difference = abs((d1 - d2).days)
37 print("Number of days between the two dates:", days_difference)
38 OUTPUT
39 Number of days between the two dates: 73
40
41 4. Create a list of tuples containing a food item and its price. Sort the tuples in
   descending order by price.
42 INPUT
43 food_prices = [("Burger", 150), ("Pizza", 250), ("Pasta", 200)]
44 sorted_food_prices = sorted(food_prices, key=lambda x: x[1], reverse=True)
45 print("Sorted by price (descending):", sorted_food_prices)
46 OUTPUT
47 Sorted by price (descending): [('Pizza', 250), ('Pasta', 200), ('Burger', 150)]
48
49 5. Remove empty tuple(s) from the list of tuples.
50 INPUT
51 tuples_list = [(), ("Alice", 25), (), ("John", 30)]
52 filtered_list = [tup for tup in tuples_list if tup]
53 print("List after removing empty tuples:", filtered_list)
54 OUTPUT
55 List after removing empty tuples: [('Alice', 25), ('John', 30)]
56
57 6. Modify an element of a tuple.
58 INPUT
59 original_tuple = (1, 2, 3)
60 modified_list = list(original_tuple)
61 modified_list[1] = 20 # Change second element
62 modified_tuple = tuple(modified_list)

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63 print("Modified tuple:", modified_tuple)
64 OUTPUT
65 Modified tuple: (1, 20, 3)
66
67 7. Delete an element of a tuple
68 INPUT
69 original_tuple = (1, 2, 3)
70 modified_tuple = tuple(ele for ele in original_tuple if ele != 2) # Remove 2
71 print("Tuple after deletion:", modified_tuple)
72 OUTPUT
73 Tuple after deletion: (1, 3)
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