

Course – BCSE101E – Python Programming

Question Bank for PAT – 3

Name of the UTA – ARVIND C B

1. Given a Tuple List, perform sort on basis of total digits in tuple.
Input : test_list = [(3, 4, 6, 723), (1, 2), (134, 234, 34)]
Output : [(1, 2), (3, 4, 6, 723), (134, 234, 34)]
Explanation : $2 < 6 < 8$, sorted by increasing total digits.
2. Given list of tuples, perform tuple intersection of elements irrespective of their order.
Input : test_list1 = [(3, 4), (5, 6)], test_list2 = [(5, 4), (4, 3)]
Output : {(3, 4)}
Explanation : (3, 4) and (4, 3) are common, hence intersection (order irrespective).

Input : test_list1 = [(3, 4), (5, 6)], test_list2 = [(5, 4), (4, 5)]
Output : set()
Explanation : No intersecting element present.
3. Given a tuple with N elements, perform pairwise addition on tuples.
The original tuple : (1, 5, 7, 8, 10)
Resultant tuple after addition : (6, 12, 15, 18)
Explanation: $1+5=6$, $5+7=12$, $7+8=15$, $8+10=18$
4. Given a tuple consisting of only binary values, convert the binary tuple to an Integer value.
Input: tup = (1, 0, 1, 1, 0)
Output: 22
5. Given 2 tuples of same size, perform logical AND operation. Store the result of the logical AND in a new tuple.
Input: (0, 1, 0, 1, 1, 0)
 (1, 1, 0, 0, 1, 0)

Output: (0, 1, 0, 0, 1, 0)

Explanation: 1 AND 1 yields 1, 1 AND 0 is 0

6. While John got ready for the office a shopping list was given by his son and daughter. While returning home John decides to buy the items from a shop. He decides to buy the items common in both the list, then the items listed only by his son and at last the items listed only by his daughter. Write a program to help him in achieving the task.
7. A proctor of our university wants a student to write a program that calculates the average of marks scored by her wards in CAT1. She has the details such as name, register number, mark1, mark2 and mark3 of her proctees. The constraint given by the faculty is that any of the details must not be altered by mistake. Help the student to develop a Python program.
8. Given a list of N tuples, take the maximum value of every tuple and store it in a list.