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**University of Engineering & Management, Kolkata**

**Course: B.Tech Semester: 3rd**

**Paper Name: Data Structure & Algorithm Laboratory**

**Paper Code: PCC - CS391**

**ASSIGMENT NO.- 2 (Related to String,List,Tuple,Set)**

1. Write a Python program to count the number of strings where the string length is 2 or more and the first and last character are same from a given list of strings.   
   Sample List : ['abc', 'xyz', 'aba', '1221']  
   Expected Result : 2
2. Write a Python program to get a list, sorted in increasing order by the last element in each tuple from a given list of non-empty tuples.   
   Sample List : [(2, 5), (1, 2), (4, 4), (2, 3), (2, 1)]  
   Expected Result : [(2, 1), (1, 2), (2, 3), (4, 4), (2, 5)].
3. Write a Python function that takes two lists and returns True if they have at least one common member.

a =[1, 2, 3, 4, 5]

b =[6, 7, 8, 9]

False

1. Write a Python program to print a specified list after removing the 0th, 4th and 5th elements.   
   Sample List : ['Red', 'Green', 'White', 'Black', 'Pink', 'Yellow']  
   Expected Output : ['Green', 'White', 'Black']
2. Write a Python program to print the numbers of a specified list after removing even numbers from it.

Enter number of elements : 7

7

8

120

25

44

20

27

[7, 25, 27]

1. Write a Python program to generate and print a list of first and last 5 elements where the values are square of numbers between 1 and 30 (both included).

1

30

[1, 4, 9, 16, 25]

[625, 676, 729, 784, 841]

1. Write a Python program to generate and print a list except for the first 5 elements, where the values are square of numbers between 1 and 30 (both included).

Enter lower limit : 1

Enter Upper limit : 30

[36, 49, 64, 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361, 400, 441, 484, 529, 576, 625, 676, 729, 784, 841

1. Write a Python program to find maximum and the minimum value in a set.

{5, 10, 3, 15, 2, 20}

Maximum value of the said set:

20

Minimum value of the said set:

2

1. Write a Python program to find the length of a set.

{5, 5, 5, 5, 5, 5, 7}

Length of the said set:

2

1. Write a Python program to check if a given value is present in a set or not.

Input:

[4, 2, 9, 5, 1, 0, 7] element -> 5

Output:

Present

1. Write a Python program to reverse a tuple.

(5, 10, 15, 20)

(20, 15, 10, 5)

1. Write a Python program to print a tuple with string formatting.   
   Sample tuple : (100, 200, 300)  
   Output : This is a tuple (100, 200, 300)

1. Write a Python program to replace last value of tuples in a list.   
   Sample list: [(10, 20, 40), (40, 50, 60), (70, 80, 90)]  
   Expected Output: [(10, 20, 100), (40, 50, 100), (70, 80, 100)]
2. Write a Python program to remove an empty tuple(s) from a list of tuples.   
   Sample data: [(), (), ('',), ('a', 'b'), ('a', 'b', 'c'), ('d')]  
   Expected output: [('',), ('a', 'b'), ('a', 'b', 'c'), 'd']
3. Write a Python program to sort a tuple by its float element.   
   Sample data: [('item1', '12.20'), ('item2', '15.10'), ('item3', '24.5')]  
   Expected Output: [('item3', '24.5'), ('item2', '15.10'), ('item1', '12.20')]