Project: Find All Unique Elements

1 Overview

This OJ Question is used for testing the correctness of your codes.

In this individual project, you are required to explore different methods (at least three) to find out all unique elements in a given list of numbers. **It is not allowed to use any C++ STL containers (e.g., std::vector, std::set, std::map, and others)**.

2 Detailed Requirements

In this project, you are asked to implement and compare different methods of finding out all unique elements in a given list of numbers. In particular, you need to provide at least **three** (i.e., ≥ 3) different methods and compare their performance with time complexity analysis.

For example, to find all unique elements in the list $\{7, 4, 5, 9, 5, 8, 3, 3\}$, you can try using array based brute force approach or binary search tree to find out the targeted output $\{7, 4, 9, 8\}$.

3 OJ Input and Output

Input
The input contains multiple test cases. For each test case, it contains a line of integers (the number of integers is less than 10^4 while each integer is $\in (-10^5, 10^5)$).

Output
Each line of the output is a list of all unique elements. The order of the output elements follows the order in the original input.

Sample Input	Sample Output
-1 1 -1 8	1 8
1 2 3 3 3 4 4 5	1 2 5
2 3 1 5 4 3 2 1	5 4