

Task:

Given an array $A[]$ of N positive integers which can contain integers from 1 to N where elements can be repeated or can be absent from the array. Your task is to count frequency of all elements from 1 to N .

Note: Expected time complexity is $O(n)$ with $O(1)$ extra space.

Input Format

First line of input contains an integer T denoting the number of test cases. For each test case, first line contains an integer N denoting the size of array. The second line contains N space-separated integers A_1, A_2, \dots, A_N denoting the elements of the array.

Output Format

For each test case, output N space-separated integers denoting the frequency of each element from 1 to N .

Constraints:

$$1 \leq T \leq 100$$

$$1 \leq N \leq 106$$

$$1 \leq A[i] \leq 106$$

Example:**Input 1**

```
2
5
2 3 2 3 5
4
3 3 3 3
```

Output 1

```
0 2 2 0 1
0 0 4 0
```

Explanation:

Testcase 1: Counting frequencies of each array elements, we have:

- 1 occurring 0 times.
- 2 occurring 2 times.
- 3 occurring 2 times.
- 4 occurring 0 times.
- 5 occurring 1 time.