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B. Following the String

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Polycarp lost the string s of length n consisting of lowercase Latin letters, but he still has its *trace*.

The *trace* of the string s is an array a of n integers, where a_i is the number of such indices j ($j < i$) that $s_i = s_j$. For example, the *trace* of the string `abracadabra` is the array `[0, 0, 0, 1, 0, 2, 0, 3, 1, 1, 4]`.

Given a *trace* of a string, find **any** string s from which it could have been obtained. The string s should consist only of lowercase Latin letters `a-z`.

Input

The first line of the input contains a single integer t ($1 \leq t \leq 10^4$) — the number of test cases. Then the descriptions of the test cases follow.

The first line of each test case contains a single integer n ($1 \leq n \leq 2 \cdot 10^5$) — the length of the lost string.

The second line of each test case contains n integers a_1, a_2, \dots, a_n ($0 \leq a_i < n$) — the *trace* of the string. It is guaranteed that for the given *trace*, there exists a suitable string s .

It is guaranteed that the sum of n over all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case, output a string s that corresponds to the given *trace*. If there are multiple such strings s , then output any of them.

The string s should consist of lowercase Latin letters `a-z`.

It is guaranteed that for each test case, a valid answer exists.

Example

input	Copy
5	
11	
0 0 0 1 0 2 0 3 1 1 4	
10	
0 0 0 0 0 1 0 1 1 0	
1	
0	
8	
0 1 2 3 4 5 6 7	
8	
0 0 0 0 0 0 0 0	
output	Copy
abracadabra	
codeforces	
a	

Codeforces Round 923 (Div. 3)

Finished

→ Practice?

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→ Virtual participation



Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

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→ Problem tags

[constructive algorithms](#) [greedy](#) [strings](#)
No tag edit access

→ Contest materials

- Announcement (en) 
- Tutorial 

```
aaaaaaa  
dijkstra
```

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