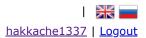
8/25/2020 Problem - A - Codeforces





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A. String Similarity

time limit per test: 2 seconds memory limit per test: 256 megabytes input: standard input output: standard output

A binary string is a string where each character is either 0 or 1. Two binary strings a and b of equal length are *similar*, if they have the same character in some position (there exists an integer i such that $a_i = b_i$). For example:

- 10010 and 01111 are similar (they have the same character in position 4);
- 10010 and 11111 are similar;
- 111 and 111 are *similar*;
- 0110 and 1001 are not similar.

You are given an integer n and a binary string s consisting of 2n-1 characters. Let's denote s[l..r] as the contiguous substring of s starting with l-th character and ending with r-th character (in other words, $s[l..r] = s_l s_{l+1} s_{l+2} \dots s_r$).

You have to construct a binary string w of length n which is similar to all of the following strings: s[1..n], s[2..n+1], s[3..n+2], ..., s[n..2n-1].

Input

The first line contains a single integer t ($1 \le t \le 1000$) — the number of test cases.

The first line of each test case contains a single integer n ($1 \le n \le 50$).

The second line of each test case contains the binary string s of length 2n-1. Each character s_i is either 0 or 1.

Output

For each test case, print the corresponding binary string w of length n. If there are multiple such strings — print any of them. It can be shown that at least one string w meeting the constraints always exists.

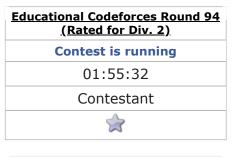
Example

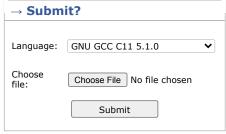


Note

The explanation of the sample case (equal characters in equal positions are bold):

The first test case:





• 1 is similar to s[1..1] = 1.

The second test case:

- **000** is similar to s[1..3] = 000;
- **000** is similar to s[2..4] = 000;
- 000 is similar to s[3..5] = 000.

The third test case:

- 1010 is similar to s[1..4] = 1110;
- 1010 is similar to s[2..5] = 1100;
- 1010 is similar to s[3..6] = 1000;
- 1010 is similar to s[4..7] = 0000.

The fourth test case:

- 00 is similar to s[1..2] = 10;
- **0**0 is similar to s[2..3] =**0**1.

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