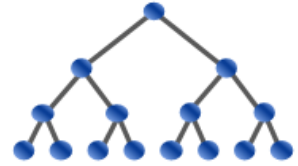


USA Computing Olympiad



OVERVIEW

DETAILS / FAQ

TRAINING

HISTORY

RESOURCES

USACO 2026 SECOND CONTEST, SILVER PROBLEM 1. COW-LIBI 2

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Time Remaining: 1 hrs, 56 min, 36 sec

Submitted; Results below show the outcome for each judge test case

*	*	*	*	*	*	*	*	*	*	*	*
1	2	3	4	5	6	7	8	9	10	11	12
3.4mb	3.4mb	3.4mb	3.4mb	4.3mb	4.4mb	4.5mb	4.3mb	6.4mb	6.4mb	6.1mb	6.1mb
2ms	2ms	2ms	2ms	7ms	6ms	6ms	6ms	36ms	35ms	36ms	31ms

English (en) ▾

Farmer John and Farmer Nhoj have taken their respective cows to sit around a campfire in hopes of settling their personal differences. In total, there are N ($2 \leq N \leq 10^5$) cows sitting in a circular formation. When the farmers are ready to take their cows back to their farms, they realize one crucial mistake: since all the cows look the same and are mixed up, they are unable to identify which cows belong to which farmer!

Then the N cows are organized into one straight line to be interrogated by the two farmers. **Because of the confusion, the order of the cows in the line, from 1 to N , might not correspond to their circular order around the campfire.**

But the cows want to play a game. Instead of answering directly which farmer they belong to, they say which farmer the cows **adjacent to them in the original circle** belong to. Additionally, it is known that Farmer Nhoj's cows always lie but Farmer John raised his cows well and they will always tell the truth.

Given the statements of the cows, is it possible to assign each cow to either Farmer John or Farmer Nhoj such that the statements of the cows assigned to Farmer John are all true, and the statements of the cows assigned to Farmer Nhoj are all false?

INPUT FORMAT (input arrives from the terminal / stdin):

The first line contains T ($1 \leq T \leq 1000$), the number of independent test cases, and an integer $C \in \{0, 1\}$ (whether to output a construction or not).

The first line of each test case contains N .

The following line contains a string of length N containing characters J or N. The i 'th character is J if cow i claims the cow to their **left** in the circle belongs to Farmer John, or Farmer Nhoj otherwise.

The following line contains a string of length N containing characters J or N. The i 'th character is J if cow i claims the cow to their **right** in the circle belongs to Farmer John, or Farmer Nhoj otherwise.

It is guaranteed that the sum of N over all tests does not exceed $5 \cdot 10^5$.

OUTPUT FORMAT (print output to the terminal / stdout):

For each test case, output YES or NO.

Additionally, if $C = 1$ and the answer is YES, output two more lines describing your construction:

The first line should contain a permutation p_1, p_2, \dots, p_N of $1 \dots N$, representing the circular order of the cows around the campfire, where cow p_i is to the left of cow p_{i+1} for i in $1 \dots N - 1$, and cow p_N is to the left of cow p_1 .

The second line should contain a string $b_1 b_2 \dots b_N$ consisting only of Js and Ns, meaning that cow p_i belongs to Farmer John if b_i is J, or Farmer Nhoj otherwise.

Any valid construction will be accepted.

SAMPLE INPUT:

```
6 0
3
JJJ
JJJ
4
JJNJ
NJJJ
6
NJJNJN
JNNJNJ
4
NNNN
```

```

NNNN
3
NNN
NNN
5
JJNNJ
NJJJJ

```

SAMPLE OUTPUT:

```

YES
NO
NO
YES
NO
YES

```

SAMPLE INPUT:

```

6 1
3
JJJ
JJJ
4
JJNJ
NJJJ
6
NJJNJ
JNNJJ
4
NNNN
NNNN
3
NNN
NNN
5
JJNNJ
NJJJJ

```

SAMPLE OUTPUT:

```

YES
1 2 3
JJJ
NO
NO
YES
1 2 3 4
NJJN
NO
YES
4 5 2 1 3
JJJJN

```

Consider the output for the sixth test case. Cows 1, 2, 4, 5 belong to Farmer John, and Cow 3 belongs to Farmer Nhoj.

The cows will then behave as follows:

- Cow 1's left and right neighbours are Cow 2 and Cow 3, respectively. Cow 1 says that Cow 2 belongs to Farmer John, and Cow 3 belongs to Farmer Nhoj.
- Cow 2's left and right neighbours are Cow 5 and Cow 1, respectively. Cow 2 says that both cows belong to Farmer John.
- Cow 3's left and right neighbours are Cow 1 and Cow 4, respectively. Cow 3 (dishonestly) says that both cows belong to Farmer Nhoj.
- Cow 4's left and right neighbours are Cow 3 and Cow 5, respectively. Cow 4 says that Cow 3 belongs to Farmer Nhoj, and Cow 5 belongs to Farmer John.
- Cow 5's left and right neighbours are Cow 4 and Cow 2, respectively. Cow 5 says that both cows belong to Farmer John.

All these claims are consistent with the input.

SCORING:

- Input 3: $C = 0$ and $N \leq 10$
- Input 4: $C = 1$ and $N \leq 10$
- Inputs 5-8: $C = 0$
- Inputs 9-12: $C = 1$

Problem credits: Chongtian Ma

Language:

Source File:

 未选择任何文件

Previous Submissions:

[Fri, Jan 30, 2026 11:32:39 EST \(C++17\)](#)
[Fri, Jan 30, 2026 11:49:47 EST \(C++17\)](#)
[Fri, Jan 30, 2026 11:58:48 EST \(C++17\)](#)
[Fri, Jan 30, 2026 11:59:28 EST \(C++17\)](#)
[Fri, Jan 30, 2026 12:12:52 EST \(C++17\)](#)
[Fri, Jan 30, 2026 12:15:21 EST \(C++17\)](#)
[Fri, Jan 30, 2026 12:17:04 EST \(C++17\)](#)
[Fri, Jan 30, 2026 12:23:26 EST \(C++17\)](#)
[Fri, Jan 30, 2026 12:23:27 EST \(C++17\)](#)
[Fri, Jan 30, 2026 12:24:27 EST \(C++17\)](#)
