POJ 3617 Best Cow Line

Time Limit:1000MS Memory Limit:65536K

Description

FJ is about to take his N ($1 \le N \le 2{,}000$) cows to the annual"Farmer of the Year" competition. In this contest every farmer arranges his cows in a line and herds them past the judges.

The contest organizers adopted a new registration scheme this year: simply register the initial letter of every cow in the order they will appear (i.e., If FJ takes Bessie, Sylvia, and Dora in that order he just registers BSD). After the registration phase ends, every group is judged in increasing lexicographic order according to the string of the initials of the cows' names.

FJ is very busy this year and has to hurry back to his farm, so he wants to be judged as early as possible. He decides to rearrange his cows, who have already lined up, before registering them.

FJ marks a location for a new line of the competing cows. He then proceeds to marshal the cows from the old line to the new one by repeatedly sending either the first or last cow in the (remainder of the) original line to the end of the new line. When he's finished, FJ takes his cows for registration in this new order.

Given the initial order of his cows, determine the least lexicographic string of initials he can make this way.

Input

* Line 1: A single integer: N
* Lines 2..N+1: Line i+1 contains a single initial ('A'..'Z') of the cow in the ith position in the original line

Output

The least lexicographic string he can make. Every line (except perhaps the last one) contains the initials of 80 cows ('A'..'Z') in the new line.

Sample Input

```
6
A
C
D
B
C
B
```

Sample Output

```
ABCBCD
```

NCKU Judge 21 Goldbach's Conjecture

Time Limit:1000MS Memory Limit:64000KB

Description:

In 1742, Christian Goldbach, a German amateur mathematician, sent a letter to Leonhard Euler in which he made the following conjecture:

Every even number greater than 4 can be
written as the sum of two odd prime numbers.

For example:

8 = 3 + 5. Both 3 and 5 are odd prime numbers.

20 = 3 + 17 = 7 + 13.

42 = 5 + 37 = 11 + 31 = 13 + 29 = 19 + 23.

Today it is still unproven whether the conjecture is right. (Oh wait, I have the proof of course, but it is too long to write it on the margin of this page.)

Anyway, your task is now to verify Goldbach's conjecture for all even numbers less than a million.

Input:

The input will contain one or more test cases.

Each test case consists of one even integer n with 6 <= n < 1000000.

Input will be terminated by a value of 0 for n.

Output:

For each test case, print one line of the form n = a + b, where a and b are odd primes. Numbers and operators should be separated by exactly one blank like in the sample output below. If there is more than one pair of odd primes adding up to n, choose the pair where the difference b - a is maximized. If there is no such pair, print a line saying "Goldbach's conjecture is wrong."

Sample test:

input

```
8
20
42
0
```

output

```
8 = 3 + 5
20 = 3 + 17
42 = 5 + 37
```