Problem D. Diminishing Fractions

Time limit: 2 seconds
Memory limit: 1024 megabytes

Daria has implemented a program for rational number arithmetic. The program can calculate the result of an expression consisting of addition and subtraction of at most n fractions, where the numerators and denominators are positive integers not greater than n.

Daria is concerned about the program's efficiency when the result is either a very large number or a positive number very close to zero. She has already tested the first case easily by entering the expression $\frac{n}{1} + \frac{n}{1} + \ldots + \frac{n}{1}$. But what about obtaining a very small positive number?

You are given t test cases, each with a limit n considered by Daria. For each given n find an expression whose value is the smallest possible positive number.

Input

The first line contains an integer t ($1 \le t \le 1000$) denoting the number of test cases.

Each of the following t lines contains an integer n ($1 \le n \le 50\,000$).

The sum of all values of n does not exceed $4 \cdot 10^6 = 4\,000\,000$.

Output

For each test case, output one line with the found expression. If there are multiple solutions, output any one of them.

The expression should contain between 1 and n fractions of the form a/b ($1 \le a, b \le n$). Fractions should be separated by "+" or "-" symbols. The "-" symbol may appear before the first fraction, but the "+" symbol may not.

The expression should not contain spaces or any other additional characters.

Example

standard input	standard output
2 3 6	1/2-1/3 -3/6+1/4+2/5-5/6+6/4-4/5

Note

In the first test case we have $n = 3$ and the expression `1/2-1/3` = `1/6`. It is impossible to obtain a positive number smaller than `1/6`. Other possible solutions include `-1/3+1/2`, or `2/3-1/2`, or `-3/2+1/1+2/3`.

In the second test case we have `-3/6+1/4+2/5-5/6+6/4-4/5` = `1/60` for $n = 6$.