A. Currency System in Geraldion

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

A magic island Geraldion, where Gerald lives, has its own currency system. It uses banknotes of several values. But the problem is, the system is not perfect and sometimes it happens that Geraldionians cannot express a certain sum of money with any set of banknotes. Of course, they can use any number of banknotes of each value. Such sum is called *unfortunate*. Gerald wondered: what is the minimum *unfortunate* sum?

Input

The first line contains number n ($1 \le n \le 1000$) — the number of values of the banknotes that used in Geraldion.

The second line contains n distinct space-separated numbers $a_1, a_2, \ldots, a_n$ ($1 \le a_i \le 10^6$) — the values of the banknotes.

Output

Print a single line — the minimum *unfortunate* sum. If there are no unfortunate sums, print -1.

Examples

input
5 1 2 3 4 5
output
-1

Codeforces Round #313 (Div. 2)
Finished

→ Virtual participation

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Start virtual contest

→ Problem tags

geometry implementation sortings

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→ Contest materials

- Announcement #1
- Announcement #2
- Tutorial