J. Mike and Children

time limit per test: 2 seconds
memory limit per test: 256 megabytes

Mike decided to teach programming to children in an elementary school. He knows that it is not an easy task to interest children in that age to code. That is why he decided to give each child **two** sweets.

Mike has n sweets with sizes $a_1, a_2, \ldots, a_n$. All his sweets have **different** sizes. That is, there is no such pair (i, j) $(1 \le i, j \le n)$ such that $i \ne j$ and $a_i = a_j$.

Since Mike has taught for many years, he knows that if he gives two sweets with sizes a_i and a_j to one child and a_k and a_p to another, where $(a_i + a_j) \ne (a_k + a_p)$, then a child who has a smaller sum of sizes will be upset. That is, if there are two children who have different sums of sweets, then one of them will be upset. Apparently, Mike does not want somebody to be upset.

Mike wants to invite children giving each of them **two** sweets. Obviously, he can't give one sweet to two or more children. His goal is to invite as many children as he can.

Since Mike is busy preparing to his first lecture in the elementary school, he is asking you to find the maximum number of children he can invite giving each of them two sweets in such way that nobody will be upset.

Input

The first line contains one integer n $(2 \le n \le 1\,000)$ — the number of sweets Mike has.

The second line contains n integers $a_1, a_2, \ldots, a_n$ $(1 \le a_i \le 10^5)$ — the sizes of the sweets. It is guaranteed that all integers are distinct.

Output

Print one integer — the maximum number of children Mike can invite giving each of them two sweets in such way that nobody will be upset.

Examples

input	Copy
8 1 8 3 11 4 9 2 7	

output	Copy
3	

input	Copy
7 3 1 7 11 9 2 12	

output	Copy
2	

Note

In the first example, Mike can give $9 + 2 = 11$ to one child, $8 + 3 = 11$ to another one, and $7 + 4 = 11$ to the third child. Therefore, Mike can invite three children. Note that it is **not** the only solution.

In the second example, Mike can give $3 + 9 = 12$ to one child and $1 + 11$ to another one. Therefore, Mike can invite two children. Note that it is **not** the only solution.

ICPC Assiut University Training - Juniors Phase 1 Sheets-2022
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→ Group Contests

- Juniors Phase 1 Practice #5 (Bitmask, Bitset, Bits)
- Juniors Phase 1 Practice #4 (Binary search , Two pointers)
- Juniors Phase 1 Practice #3 (STL 2)
- Juniors Phase 1 Practice #2 (STL 1)
- Juniors Phase 1 Practice #1 (Prefix sum , Frequency Array)

Juniors Phase 1 Practice #1 (Prefix sum , Frequency Array)
Finished
Practice

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
246084586	Feb/13/2024 12:38	Accepted
246084324	Feb/13/2024 12:36	Accepted
246083790	Feb/13/2024 12:30	Wrong answer on test 4
246083658	Feb/13/2024 12:29	Wrong answer on test 4