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# The Smallest Pair

Problem Code: **SMPAIR**

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You are given a sequence  $a_1, a_2, \dots, a_N$ . Find the smallest possible value of  $a_i + a_j$ , where  $1 \leq i < j \leq N$ .

### Input

The first line of the input contains an integer  $T$  denoting the number of test cases. The description of  $T$  test cases follows.

The first line of each description consists of a single integer  $N$ .

The second line of each description contains  $N$  space separated integers -  $a_1, a_2, \dots, a_N$  respectively.

### Output

For each test case, output a single line containing a single integer - the smallest possible sum for the corresponding test case.

### Constraints

- $T = 10^5, N = 2$  : 13 points.
- $T = 10^5, 2 \leq N \leq 10$  : 16 points.
- $T = 1000, 2 \leq N \leq 100$  : 31 points.
- $T = 10, 2 \leq N \leq 10^5$  : 40 points.
- $1 \leq a_i \leq 10^6$

### Example

Input :

```
1
4
5 1 3 4
```

Output :

```
4
```

### Explanation

Here we pick  $a_2$  and  $a_3$ . Their sum equals to  $1 + 3 = 4$ .

All submissions for this problem are available.

Author: [sergey\\_adm](#)

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Editorial: <https://discuss.codechef.com/problems/SMPAIR>

Tags: [cakewalk](#), [ltime13](#), [sergey\\_adm](#), [sorting](#)

Date Added: 5-06-2014

Time Limit: 1 secs

Source Limit: 50000 Bytes

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