

# Beautiful Arrays

Problem Code: ICPC16B

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An array  $\mathbf{a}$  is called *beautiful* if for every pair of numbers  $\mathbf{a}_i, \mathbf{a}_j$ , ( $i \neq j$ ), there exists an  $\mathbf{a}_k$  such that  $\mathbf{a}_k = \mathbf{a}_i * \mathbf{a}_j$ . Note that  $k$  can be equal to  $i$  or  $j$  too.

Find out whether the given array  $\mathbf{a}$  is *beautiful* or not!

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## Input

First line of the input contains an integer  $T$  denoting the number of test cases.  $T$  test cases follow.

First line of each test case contains an integer  $n$  denoting number of elements in  $\mathbf{a}$ .

Next line contains  $n$  space separated integers denoting the array  $\mathbf{a}$ .

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## Output

For each test case, output a single line containing "yes" or "no" (without quotes) corresponding to the answer of the problem.

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## Constraints

- $1 \leq T \leq 10^6$
  - $1 \leq n \leq 10^5$
  - Sum of  $n$  over all the test cases  $\leq 10^6$
  - $-10^9 \leq a_i \leq 10^9$
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## Example

### Input

```
3
2
0 1
2
1 2
2
5 6
```

### Output:

yes

yes

no

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### Explanation

**Test case 1.** If you multiply 0 with 1, you get 0, we see that  $a_0 = 0$ . So, the array is *beautiful*.

**Test case 3.** If you multiply 5 with 6, you get 30, there does not exist an  $k$  such that  $a_k = 30$ . So, the array is not *beautiful*.