



04 : 02 : 16 : 05  
DAY HRS MIN SEC

# September Circuits '17

LIVE

Sep 22, 2017, 09:00 PM IST - Oct 02, 2017, 09:00 PM IST

10

LIVE EVENTS

INSTRUCTIONS

PROBLEMS

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LEADERBOARD

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## Little Shino and Number of Divisors

Max. Marks: 100

You are given an integer array  $A$  of size  $x$  denoting the prime powers of an integer  $N$ .  $A_i$  denotes the power of  $i^{th}$  prime in the prime factorization of  $N$ . To make it more clear,  $A_1$  will denote the power of 2 in the prime factorization of  $N$ ,  $A_2$  will denote the power of 3 in the prime factorization of  $N$  and so on.

Consider a number  $P$  equals to the product of all the divisors of  $N$ . You have to find the number of divisors of  $P$ . Output it modulo  $10^9 + 7$ .



### Input Format:

The first line contains an integer,  $x$  ( $1 \leq x \leq 10^6$ ) denoting the size of array  $A$ . Next line contains  $x$  space separated integers, denoting the array  $A$  ( $0 \leq A_i \leq 10^9$ ).



### Output Format:

Print one integer, denoting the number of divisors of  $P$ , modulo  $10^9 + 7$ .

SAMPLE INPUT



```
3
1 1 1
```

SAMPLE OUTPUT  

125

Explanation



$N = 2^1 * 3^1 * 5^1 = 30$

$P = 1 * 2 * 3 * 5 * 6 * 10 * 15 * 30 = 810000$

Number of factors of  $P$  is 125

Time Limit:	1.0 sec(s) for each input file.
Memory Limit:	256 MB
Source Limit:	1024 KB
Marking Scheme:	Marks are awarded if any testcase passes.
Allowed Languages:	C, C++, C++14, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Swift, Visual Basic

CODE EDITOR

Enter your code or [Upload your code](#) as file. Save C (gcc 5.4.0) ▼  

```
1 #include <stdio.h>
2
3 int main()
4 {
5
6
7     return 0;
8 }
9
```

☒ Provide custom input

🔥 Press Ctrl-space for autocomplete suggestions.

COMPILE & TEST

SUBMIT

🔧 **Tip:** You can submit any number of times you want. Your best submission is considered for computing total score.

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