



02:04:02 HRS MIN SEC

August Easy '21

LIVE

Aug 07, 2021, 09:30 AM IST - Aug 07, 2021, 12:30 PM IST

INSTRUCTIONS PROBLEMS SUBMISSIONS LEADERBOARD ANALYTICS JUDGE

← Problems / Count the array

Count the array

Max. score: 100

You are given an integer P.

Also, you are given Q queries of the following type:

- N: Determine the count of distinct arrays of size $\leq N$ and ≥ 1 such that:
 - Each array element is a prime number
 - \circ Product of the value of all the array elements is $\leq P$
 - Array formed is palindromic

Note

- Two arrays are said to be distinct if there exists at least one index where the value of element present in both the arrays is different.
- An array is said to be palindromic if it reads same from the left to right and right to left direction.
- Since the count can be very large, print the output in modulo $10^9 + 7$.
- Assume 1 based indexing.

Input format

- The first line contains an integer P.
- The second line contains an integer Q.
- ullet The next line contains $oldsymbol{Q}$ space-separated integers that denotes the value of $oldsymbol{N}$ for each query.

Output format

Print $oldsymbol{Q}$ space-separated integers denoting the result for $oldsymbol{Q}$ queries.

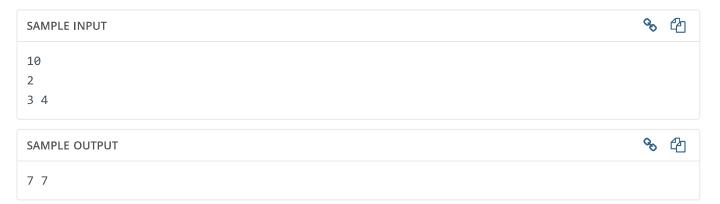
Constraints

$$1 \le N \le 10^9$$

$$1 \le P \le 10^6$$

$$1 \leq Q \leq 10^5$$

7



Explanation

For Query 1:

- N = 3
- Following are the arrays which satisfy the conditions:
 - o [2]
 - · [3]
 - · [5]
 - · [7]
 - o [2, 2]
 - ∘ [3,3]
 - o [2, 2, 2]

For Query 2:

- N = 4
- Following are the arrays which satisfy the conditions:
 - o [2]
 - o [3]
 - · [5]
 - · [7]
 - o [2, 2]
 - ∘ [3,3]
 - o [2, 2, 2]

	Python 3, Python 3.8, Racket, Ruby, Rust, Scala, Swift-4.1, Swift, TypeScript, Visual Basic
	JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python,
Allowed Languages:	Bash, C, C++, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, Java 14, JavaScript(Rhino),
Marking Scheme:	Score is assigned if any testcase passes.
Source Limit:	1024 KB
Memory Limit:	256 MB
Time Limit:	1.0 sec(s) for each input file.

```
C (gcc 5.4.0)
                                                  Save
    1
    2
       // Sample code to perform I/O:
       #include <stdio.h>
    3
    4
    5
       int main(){
            int num;
    6
    7
            scanf("%d", &num);
                                                          // Reading input from Si
            8
    9
       }
   10
   11
       // Warning: Printing unwanted or ill-formatted data to output will cause
       the test cases to fail
       */
   12
   13
       // Write your code here
  14
  15
                                                                                   1:1 vscode
  ■ Provide custom input
    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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