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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  $\geq 1$  such that:
  - Each array element is a prime number
  - 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  $Q$ .
- The next line contains  $Q$  space-separated integers that denotes the value of  $N$  for each query.

### Output format

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

### Constraints

$$1 \leq N \leq 10^9$$

$$1 \leq P \leq 10^6$$

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

?

## SAMPLE INPUT



```
10
2
3 4
```

## SAMPLE OUTPUT



```
7 7
```

## Explanation

## For Query 1:

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

## For Query 2:

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

**Time Limit:** 1.0 sec(s) for each input file.

**Memory Limit:** 256 MB

**Source Limit:** 1024 KB

**Marking Scheme:** Score is assigned if any testcase passes.

**Allowed Languages:** Bash, C, C++, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, Java 14, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, Racket, Ruby, Rust, Scala, Swift-4.1, Swift, TypeScript, Visual Basic

## CODE EDITOR



Save

C (gcc 5.4.0)



```
1  /*
2  // Sample code to perform I/O:
3  #include <stdio.h>
4
5  int main(){
6      int num;
7      scanf("%d", &num);           // Reading input from STDIN
8      printf("Input number is %d.\n", num); // Writing output to STDOUT
9  }
10
11 // Warning: Printing unwanted or ill-formatted data to output will cause
12 // the test cases to fail
13 */
14 // Write your code here
15
```

1:1 vscode

☒ Provide custom input

COMPILE &amp; 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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