

Minimum Multiple **■**



Calculi is Lambda's older brother. Lambda is mischievous and always annoys Calculi by asking silly questions. This time around, Lambda would like to surprise Calculi by asking a challenging and interesting question. To that end, Lambda gives Calculi an array of N integers, $A = \{a_0, a_1, \dots, a_{N-1}\}$, followed by K queries. Each query is of two types:

- $Q \ l \ r$: Find the minimum positive integer, M, such that each element in subarray $arr[l \dots r]$ $(\{a_l, a_{l+1}, \dots, a_r\})$ divides M.
- U idx val: Multiply the value at idx by val. That is $a'_{\textit{idx}} = a_{\textit{idx}} \times \textit{val}$, where $a'_{\textit{idx}}$ is the updated value.

Your task is to help Calculi tackle this challenge. For each query of type "Q l r", find the value of M. As this value can be very large, print the M modulo (109 + 7), i.e., $M\%(10^9 + 7)$. For query of type "U idx val", update the required element.

The first line contains an integer, N, which represents the length of array, A.

In second line, there are N space-separated integers, $a_0, a_1, \ldots, a_{N-1}$, representing the elements of A

In third line, there is another integer, K, which is the count of queries to follow.

Then follows \boldsymbol{K} lines, each representing a query of one of the types described above.

Constraints

- $1 \le N \le 5 \times 10^4$
- ullet $1 \leq a_i \leq 100$, where $i \in [0,N-1]$
- $1 \le K \le 5 \times 10^4$
- $0 \le l \le r < N$
- $0 \le idx < N$
- $1 \le val \le 100$

Output Format

For each query of type Q 1 r, print the value of $M\%(10^9 + 7)$ on a new line.

Sample Input

- 5 2 5 6 1 9
- 7 Q 0 4 U 1 2 Q 0 2

- Q 3 4 Q 2 4
- Ú 3 8

Sample Output

- 90
- 30 9
- 18

Explanation

Query 1 (Q 0 4): Calculi has to find M for (sub)array $A[0...4] = \{2,5,6,1,9\}$ which is 90.

Query 2 (U 1 2): $a_1' = a_1 \times 2 = 10$. Now updated array is $A = \{2, 10, 6, 1, 9\}$.

Query 3 (Q 0 2): M for subarray $A[0...2] = \{2, 10, 6\}$ is 30.

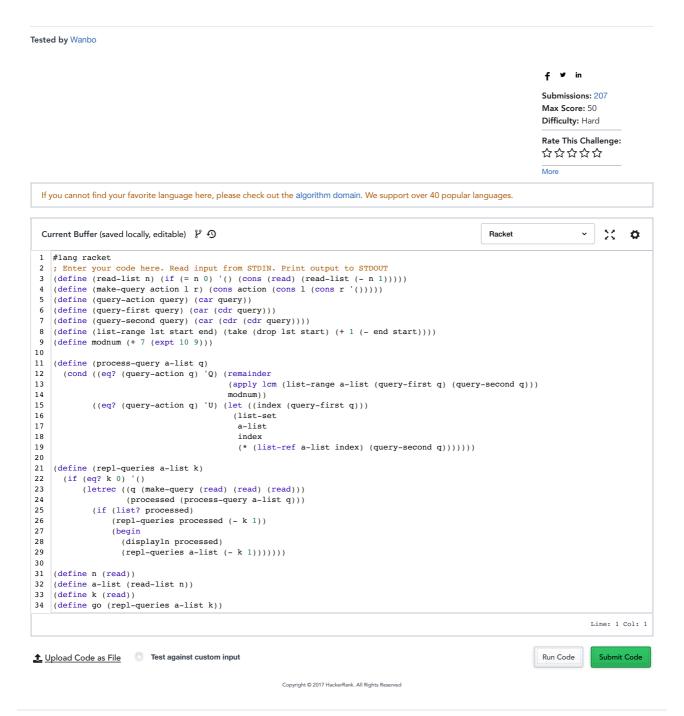
Query 4 (Q 3 4): \boldsymbol{M} for subarray $\boldsymbol{A[3\ldots 4]}=\{1,9\}$ is 9.

Query 5 (Q 2 4): M for subarray $A[2...4] = \{6,1,9\}$ is 18.

Query 6 (U 3 8): Updated array is $A = \{2, 10, 6, 8, 9\}$.

Query 7 (Q 2 3): M for subarray $A[2...3] = \{6,8\}$ is 24.

1 of 2 4/23/17, 5:27 PM



Join us on IRC at #hackerrank on freenode for hugs or bugs.

Contest Calendar | Interview Prep | Blog | Scoring | Environment | FAQ | About Us | Support | Careers | Terms Of Service | Privacy Policy | Request a Feature

2 of 2 4/23/17, 5:27 PM