Problem K

Krystalova's Trivial Problem

Krystalova is writing trivial problems (as always) but now for some reason (lucky for you) she also wrote a trivial statement.

You have a trivial list of numbers L, and two trivial operations:

1. $u\ l\ r\ x$: Add x to the numbers in L in the range $[l, r]$.
2. $q\ l\ r$: Get the sum of L_i^2 for every i in the range $[l, r]$.

Input

In the first line of input two integers N ($1 \leq N \leq 10^5$), Q, the size of L and the number of operations respectively.

The next line contains N integers L_i ($0 \leq L_i \leq 10^8$), the elements of L.

The next Q lines contains an operation, that can be one of the two types described before. If the line starts with a letter $'u'$ then will be three integers l ($1 \leq l \leq N$), r ($1 \leq r \leq N$), x ($-10^8 \leq x \leq 10^8$). If the line starts with a letter $'q'$ then will be two integers l ($1 \leq l \leq N$), r ($1 \leq r \leq N$)

Output

For every operation of type 2, print in one line the result of the operation. As the answer might be very large, please output the answer modulo $10^9 + 7$

Input example 1	**Output example 1**
5 5 1 1 1 1 1 u 1 3 1 q 1 5 u 3 5 1 q 3 3 q 1 5	14 9 25