Point Set Range Composite

AC一覧

Problem Statement

Given a size N sequence of linear functions $f_0, f_1, ..., f_{N-1}$. For all i, $f_i(x) = a_i x + b_i$. Process Q queries as follows:

- `0` p c d : change $f_p \leftarrow cx + d$.
- `1` l r x : print $f_{r-1}(f_{r-2}(...f_l(x))) \bmod 998244353$.

Constraints

- $1 \leq N, Q \leq 500,000$
- $1 \leq a_i, c < 998244353$
- $0 \leq b_i, d, x < 998244353$
- $0 \leq p < N$
- $0 \leq l < r \leq N$

Input

N Q
a_0 b_0
a_1 b_1
:
a_{N-1} b_{N-1}
Query_0
Query_1
:
Query_{Q-1}

1

```
5 5
1 2
3 4
5 6
7 8
9 10
1 0 5 11
1 2 4 12
0 1 13 14
1 0 4 15
1 2 5 16
```

```
14005
470
8275
5500
```

FORUM

Timelimit: 5 secs