时间限制：C/C++/Rust/Pascal 3秒，其他语言6秒
空间限制：C/C++/Rust/Pascal 256 M，其他语言512 M
64bit IO Format: %lld

题目描述 ⤬

Please note the special memory limit of this problem.

This is Tachibana Kanade. She is very cute.

In the quiet afterlife, where forgotten memories echo like distant bells, a vast Tree connects every soul's regret.

Tachibana Kanade, the silent guardian, awakens in the center of this realm. Each node on the Tree holds a number a_i --- fragments of emotion, unresolved wishes, and fading light.

To awaken her scattered friends, Kanade must walk from node l to node r, tracing a simple path. The values along this path are $w_1, w_2, \ldots, w_k$. She starts with the counter set to w_1.

At each of the next $k - 1$ steps, she will:

● Increase the step index by 1,
● Choose to either **add** or **multiply** the counter by the current value w_{id}.

Her mission: reach exactly 24, the number that symbolizes a complete day --- 24 hours of precious time, 24 echoes of unspoken memories.

Some queries ask whether such a path can yield 24. Others alter the memory fragments themselves.

Can Kanade rewrite fate and reach that quiet resolution once more?Echoes of 24

输入描述:

The first line contains two integers n and q $(1 \le n, q \le 5 \times 10^5)$ --- the number of nodes in the tree and the number of queries.