

Desperate Recovery (recovery)

Today is a dreadful day for Sara. The pride of her collection, an exquisite permutation p of size N , which she held in display on the largest shelf in her room, was destroyed in a terrible accident and all its elements are now scrambled on the floor.

Luckily, she previously foresaw this possibility and she designed a safety measure to recover the permutation for this kind of emergencies: she crafted M tokens inspired by domino pieces, each with 3 numbers a_i, b_i, c_i , indicating that $p[a_i] < p[b_i] < p[c_i]$. These tokens are perfectly symmetric and she wouldn't be able to distinguish which way they are oriented, and for this reason she arranged them in the correct orientation on another shelf.

However what she didn't foresee is that all M tokens have also been scattered around the room during the accident! She managed to recover all of them but she now has in front of her M triplets x_i, y_i, z_i , and she cannot tell whether they should be read as $(a_i, b_i, c_i) = (x_i, y_i, z_i)$ or $(a_i, b_i, c_i) = (z_i, y_i, x_i)$.

She is so desperate to recover anything half as beautiful as her original permutation that she will accept to reconstruct any permutation q of the same size N such that if she were to keep at least $\lceil \frac{M}{2} \rceil$ tokens and orient them in some way, then $q[a_i] < q[b_i] < q[c_i]$ would hold for those tokens. In other words, she will accept any permutation q such that for at least $\lceil \frac{M}{2} \rceil$ triplets, either $q[x_i] < q[y_i] < q[z_i]$ or $q[z_i] < q[y_i] < q[x_i]$ holds. Please help her by providing any such permutation q .

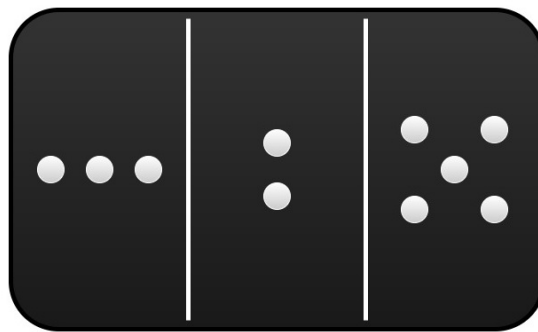


Figure 1: One of Sara's tokens reading (3, 2, 5). Turning it upside down would read (5, 2, 3).

Input

The first line contains two integers N and M , respectively the size of the permutation and the number of tokens.

Each of the following M lines contains three integers x_i, y_i, z_i , the triplet Sara reads on the i -th token.

Output

You should output one line containing N integers representing any feasible permutation q according to the statement.

Constraints

- $1 \leq N \leq 10^6$.
- $0 \leq M \leq 10^6$.
- $0 \leq x_i, y_i, z_i < N$.
- $x_i \neq y_i \neq z_i \neq x_i$ for all i .
- There is no pair (i, j) of triplets such that $(x_i, y_i, z_i) = (x_j, y_j, z_j)$ or $(x_i, y_i, z_i) = (z_j, y_j, x_j)$.
- It is guaranteed that all tokens have been obtained from an original permutation p .

Examples

input	output
5 4 4 0 1 1 3 4 3 0 2 4 2 0	3 2 1 4 0

Explanation

In the sample case, Sara wants to keep at least $\lceil \frac{M}{2} \rceil = 2$ tokens. With the provided solution, she can keep the 2 tokens with $(3, 0, 2)$ and $(4, 2, 0)$. After turning upside down the first and reading $(2, 0, 3)$, she would obtain $q[a] < q[b] < q[c]$ for both of those tokens. Other solutions are also possible, for example with the permutation $[2, 0, 3, 1, 4]$ she could even keep all tokens.