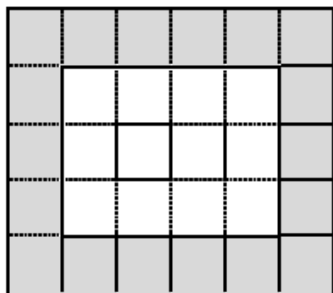
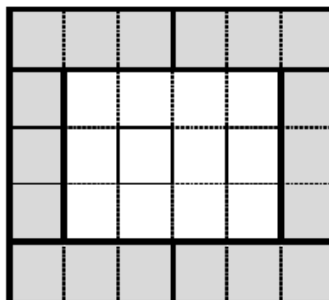


6858 Frame

Let's consider a $X \times Y$ rectangle with the middle $(X - 2) \times (Y - 2)$ rectangle cut out. We will call this figure a frame with size $X \times Y$. Picture 1 shows the frame 5×6 .



Picture 1. Frame 5×6



Picture 2. Frame 5×6 , paved with tiles 3×1

Let's assume that we have unlimited number of tiles with size $A \times 1$. We consider the following problem: is it possible to completely pave a frame with size $X \times Y$ using these tiles (tiles can be rotated by 90 degrees). For example, frame 5×6 from Picture 1 can be paved completely with tiles of size 3×1 (one way to do so is shown in Picture 2), but can't be paved with tiles of size 4×1 .

Input

The input file contains several test cases, each of them as described below.

The first line contains 2 integers — X and Y ($3 \leq X \leq 10^6$, $3 \leq Y \leq 10^6$). The second line contains integer N — the number of tile types to be analyzed ($1 \leq N \leq 1000$). Each of following N lines contains one integer, not exceeding 10^6 . We designate with A_K the integer on the $(k + 2)$ -th line of the input file.

Output

For each test case, your goal is to print N lines, where the K -th line should contain the word 'YES', if it is possible to tile the frame with size $X \times Y$ with tiles $A_K \times 1$, and the word 'NO' otherwise.

Sample Input

```
5 6
2
3
4
```

Sample Output

```
YES
NO
```