Problem E. Inventory Dsitribution

Time limit	1000 ms
Mem limit	65536 kB
OS	Windows

In a futuristic market, a distribution company is tasked with sending sets of goods to various secret shops. These shops must follow a strict rule: no two sets delivered to the same shop can be too similar. .
Two sets are "similar" if:

- One set can be obtained by removing one item from the other.
- One set can be obtained by replacing one item from the other.

E.g. Set “1 2 3 4” is similar to sets “3 2 1”, “1 2 5 3 4”, “1 2 3 4 2” and “1 5 4 3” and is not similar to “1 2” and “4 5 3 6”.

Your task is to assign sets of goods to shops in such a way that no shop receives two similar sets.

Input

- The first line contains three integers: G (number of types of goods), S(number of sets), and P (number of secret shops).
- The next SSS lines describe each set of goods. Each line starts with an integer representing the number of goods in the set, followed by the goods themselves.

Output

The first line of the output should contain word YES if the solution exists or NO contrary. If the answer is YES write the numbers of the shops where sets should be sent to. In the second line you have to write number of the shop where the first set should be sent to, the third — for the second set, etc. If there are more than one solution exist you may find any of them.

Sample

Input	Output
8 20 12 5 1 3 5 6 4 5 1 3 5 6 3 4 5 6 3 3 4 5 6 3 4 4 4 6 5 8 4 7 7 7 7 3 7 7 7 2 2 2 3 2 2 7 3 1 2 3 3 1 2 4 10 1 2 3 4 5 6 7 8 7 6 10 8 7 6 5 4 3 2 1 2 1 20 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8 1 3 5 7 5 4 6 4 6 4 5 6 4 6 4 6 6 6 6 6 6 6 6 3 6 6 6 1 1 1 2	YES 2 1 9 1 6 2 4 5 3 7 8 5 4 8 7 9 1 1 2 3