

Pop Sequence

Given a stack which can keep M numbers at most. Push N numbers in the order of 1, 2, 3, ..., N and pop randomly. You are supposed to tell if a given sequence of numbers is a possible pop sequence of the stack. For example, if M is 5 and N is 7, we can obtain 1, 2, 3, 4, 5, 6, 7 from the stack, but not 3, 2, 1, 7, 5, 6, 4.

Input Specification:

Each input file contains one test case. For each case, the first line contains 3 numbers (all no more than 1000): M (the maximum capacity of the stack), N (the length of push sequence), and K (the number of pop sequences to be checked). Then K lines follow, each contains a pop sequence of N numbers. All the numbers in a line are separated by a space.

Output Specification:

For each pop sequence, print in one line "YES" if it is indeed a possible pop sequence of the stack, or "NO" if not.