Search for an integer using sequential search

Write a program to search for an element in an array of n elements using sequential search algorithm.

Input

Input begins with t ($1 \leq t \leq 100$) of number of test-cases in the first line and the test-cases are in the following lines. Each test-case begins with n ($1 \leq n \leq 1{,}000{,}000$) of number of integers ($-2^{31} \leq \text{integer} \leq 2^{31} - 1$) in the array in a single line and followed by n lines having an integer in each line and the integer to be searched in a new line.

Output

For each test-case, print the index ($0 \leq \text{index} \leq n-1$) of the first appearance of the search element in the array in a new line. Print '-1' if the element is not found in the array.

Example

Input:
3

4
999999
0
-999999
1234
1234

4
999999
0
-999999
1234
-1234

4
999999
0
-999999
1234
999999

Output:
3
-1
0