Hard to solve

You will be given an array of N integers and X integer. Write a recursive function to find if X is in the array or not.

Input

Input starts with an integer T (T ≤ 100), the number of test cases.

Each of the next 2*T lines will start with an integer N (1 <= N <= 100), number of integers followed by N space separated. Each of these N integers will be between -1000 and 1000 (inclusive).Then next line will have X (-1000 <= X <= 1000) representing the number you want to search for.

Output

For each test case, output one line in the format “Case t: a”, where t is the case number and a “YES” if you found X or “NO” if didn’t found. (quotes for clarity).

Example

Input:
2
5 5 13 -11 19 93
-19
3 15 65 -18
-18

Output:
Case 1: NO
Case 2: YES