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**Fixed points****P34682\_en**

Let  $S = x_1, \dots, x_n$  be a sequence of integer numbers such that  $x_1 < \dots < x_n$ . For every integer number  $a$  and every index  $1 \leq i \leq n$ , define  $f_a(i) = x_i + a$ . Write a program that, given  $S$  and  $a$ , tells whether there is some  $i$  such that  $f_a(i) = i$ .

**Input**

Input consists of several cases. Every case begins with  $n$ , followed by  $S$ , followed by a number  $m$ , followed by  $m$  different integer numbers  $a_1, \dots, a_m$ . Assume  $1 \leq n \leq 10^6$ .

**Output**

For every case, print its number starting at 1. Afterwards, for every  $a_j$  print the position of its fixed point. If no fixed point exists, state so. If there is more than one fixed point, print the smallest one. Print a blank line after the output for every case.

**Sample input 1**

```
5
-7 -2 0 4 8
1
0
5
0 1 2 3 4
3
0 -1 1
```

**Sample output 1**

```
Sequence #1
fixed point for 0: 4

Sequence #2
no fixed point for 0
no fixed point for -1
fixed point for 1: 1
```

**Problem information**

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