

Search in sorted and rotated array

Description

Given a sorted(increasing order) array of length n and is rotated by some value beforehand. Find the index of the target element K in the rotated array in $O(\log n)$ time. If not found print -1 .

Note: Array contains all distinct elements.

Input

Input Format

First line consists of n and k separated by space.

Second line consists of n integers separated by spaces

Constraints

$1 \leq n \leq 50$

$k \leq 50$

Output

Print index of the target element

Sample Input 1

```
5 1
3 4 5 1 2
```

Sample Output 1

```
3
```

Sample Input 2

```
6 6
3 4 7 9 1 2
```

Sample Output 2

```
-1
```