
Close equal numbers**P63257_en**

Given an integer number k and n numbers x_1, \dots, x_n , are there at least two equal numbers at distance at most k ? Consider the sequence of x_i 's circularly, that is, assume that x_1 is to the right of x_n .

Input

Input consists of several cases, each with k and n , followed by x_1, \dots, x_n . You can assume $1 \leq k \leq n/2$, $2 \leq n \leq 10^5$, and that each x_i is an integer number between 0 and 10^9 .

Output

For every case, print “yes” if there is at least a pair of x_i 's with the required condition, and print “no” otherwise.

Sample input 1

```
4 8 10 42 23 33 12 42 17 18
3 8 10 42 23 33 12 42 17 18
4 7 10 42 23 33 12 42 17
3 7 10 42 23 33 12 42 17
```

Sample output 1

```
yes
no
yes
yes
```

Problem information

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