

Target Sums

Given a *sorted array* of n distinct values as well as a target value T , determine in $O(n)$ *time* whether or not there exist two distinct values in the array that sum to T . (For example, if the array contained 3, 5, 6, 7, and 9 and $T = 14$, then you should report that a pair of values in the array exists that adds up to T . If $T = 17$, you should indicate that no such pair exists.

Input Format

The first line of the file will have a single positive integer k , representing the number of test cases in the file. Each test case will follow. The first line of each test case will have two space separated positive integers: n ($n \leq 10^6$), the size of the array, and t ($t \leq 10^9$), the target for the input case. The following n distinct positive integers will be listed in ascending order, separated by white space.

Output Format

For each test case, output a line with either YES or NO depending on whether or not there exist two distinct integers in the given array that add up to the designated target.

Sample Input

```
2
5 14
3 5 6
7 9
3 11
1 3 6
```

Sample Output

```
YES
NO
```

Assignment Details

Please use standard in, standard out. If you choose to submit this one (you must submit one of RP 1-4), please call your submission target.c.