Problem H. Replacing Elements

Time limit   2000 ms

Mem limit   262144 kB

You have an array $a_1, a_2, \ldots, a_n$. All a_i are positive integers.

In one step you can choose three distinct indices i, j, and k ($i \neq j; i \neq k; j \neq k$) and assign the sum of a_j and a_k to a_i, i. e. make $a_i = a_j + a_k$.

Can you make all a_i lower or equal to d using the operation above any number of times (possibly, zero)?

Input

The first line contains a single integer t ($1 \leq t \leq 2000$) — the number of test cases.

The first line of each test case contains two integers n and d ($3 \leq n \leq 100; 1 \leq d \leq 100$) — the number of elements in the array a and the value d.

The second line contains n integers $a_1, a_2, \ldots, a_n$ ($1 \leq a_i \leq 100$) — the array a.

Output

For each test case, print `YES`, if it's possible to make all elements a_i less or equal than d using the operation above. Otherwise, print `NO`.

You may print each letter in any case (for example, `YES`, `Yes`, `yes`, `yEs` will all be recognized as positive answer).

Examples

Input	Output
3 5 3 2 3 2 5 4 3 4 2 4 4 5 4 2 1 5 3 6	NO YES YES

Note

In the first test case, we can prove that we can't make all $a_i \leq 3$.

In the second test case, all a_i are already less or equal than $d = 4$.

In the third test case, we can, for example, choose $i = 5$, $j = 1$, $k = 2$ and make $a_5 = a_1 + a_2 = 2 + 1 = 3$. Array a will become $[2, 1, 5, 3, 3]$.

After that we can make $a_3 = a_5 + a_2 = 3 + 1 = 4$. Array will become $[2, 1, 4, 3, 3]$ and all elements are less or equal than $d = 4$.