Problem A. Santa and Chocolates

Time limit	1000 ms
Code length Limit	50000 B
OS	Linux

This Christmas, Santa has a list of N children for gift distribution.
Initially, he decides to gift A_i chocolates to the i^{th} child. However, children are not happy with this distribution.
He then decides to redistribute the chocolates in a way, such that:

- Each child has **at least** one chocolate;
- The difference of chocolates between any pair of children is **not more than** K.

Find whether such distribution is possible.

Input Format

- The first line of input will contain a single integer T, denoting the number of test cases.
- Each test case consists of multiple lines of input.
  - The first line of each test case contains two space-separated integers N and K — the number of children and the maximum difference of chocolates between any two children.
  - The next line of each test case contains N space-separated integers $A_1, A_2, \ldots, A_N$, denoting the initial distribution of chocolates.

Output Format

For each test case, output on a new line, `YES`, if Chef can redistribute the chocolates in the above mentioned way. Otherwise, output `NO`.

Note that you may print each character in uppercase or lowercase. For example, the strings `NO`, `no`, `No`, and `nO` are considered the same.

Constraints

- $1 \leq T \leq 1000$

- $1 \leq N \leq 10^5$
- $0 \leq K \leq 100$
- $0 \leq A_i \leq 100$
- The sum of N over all test cases won't exceed 10^6.

Sample 1

Input	Output
3 5 2 7 0 1 4 2 4 100 1 0 2 0 4 3 1 1 0 2	YES NO YES

Test case 1: A possible redistribution satisfying all conditions is $[2, 4, 2, 4, 2]$. Note that all children have at least 1 chocolate and the maximum difference of chocolates between any two children is 2.

Test case 2: It is not possible to have a redistribution satisfying all conditions.

Test case 3: A possible redistribution satisfying all conditions is $[1, 1, 1, 1]$. Note that all children have at least 1 chocolate and the maximum difference of chocolates between any two children is 0, which is less than 3.