

A Mess Nobody Needs

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 512 megabytes

Once, while cleaning up the mess in his room, Petya and Varya found n threads and a pair of scissors. Naturally, to get rid of them, they invented a game. Petya goes first, and after that, the players take turns.

A turn consists of one action: the player chooses a thread of length x . After that, they must cut it into two threads of natural lengths a and b , such that $\gcd(a, b) > 1$, and return these threads back into the game. Here, $\gcd(x, y)$ denotes the greatest common divisor of the numbers x and y .

Note that after each turn, the number of threads in the game increases by one. The player who cannot make a move loses.

Petya is your good friend, and he wants to win against Varya in this game at all costs. Help him determine if he can win regardless of his opponent's moves.

Input

Each test consists of several test cases. The first line contains a single integer t — the number of test cases ($1 \leq t \leq 5000$). The following describes the test cases.

The first line of each test case contains an integer n — the initial number of threads in the game ($1 \leq n \leq 10^5$).

The second line of each test case contains n integers s_i — the lengths of the threads ($2 \leq s_i \leq 10^{12}$).

It is guaranteed that the sum of n across all test cases does not exceed 10^5 .

Output

For each test case, output “Yes” on a separate line if Petya can defeat Varya, and “No” otherwise.

Example

standard input	standard output
6	No
1	Yes
7	No
1	Yes
38	Yes
6	No
34 11 17 34 17 11	
5	
2 3 4 5 6	
5	
7 8 9 10 11	
7	
12 15 16 21 25 27 49	