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PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS HACKS ROOM STANDINGS CUSTOM INVOCATION

# A. LRC and VIP

time limit per test: 1 second memory limit per test: 256 megabytes

You have an array a of size  $n-a_1,a_2,\ldots a_n$ .

You need to divide the n elements into 2 sequences B and C, satisfying the following conditions:

- · Each element belongs to exactly one sequence.
- ullet Both sequences B and C contain at least one element.
- $\gcd(B_1, B_2, \ldots, B_{|B|}) \neq \gcd(C_1, C_2, \ldots, C_{|C|})^*$

### Input

Each test contains multiple test cases. The first line contains the number of test cases t (  $1 \le t \le 500$ ). The description of the test cases follows.

The first line of each test case contains an integer n ( $2 \le n \le 100$ ).

The second line of each test case contains n integers  $a_1, a_2, \ldots, a_n$  ( $1 \le a_i \le 10^4$ ).

## **Output**

For each test case, first output **Yes** if a solution exists or **No** if no solution exists. You may print each character in either case, for example **YES** and **yEs** will also be accepted.

Only when there is a solution, output n integers on the second line. The i-th number should be either 1 or 2. 1 represents that the element belongs to sequence B and 2 represents that the element belongs to sequence C.

You should guarantee that 1 and 2 both appear at least once.

## Example

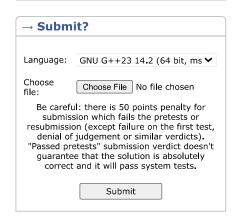
input	Сору
3 4	
4	
1 20 51 9	
4 5 5 5 5	
5 5 5 5	
3	
1 2 2	
output	Сору
Yes	
2 2 1 1	
No	
Yes	
1 2 2	

# Note

In the first test case, B=[51,9] and C=[1,20] . You can verify  $\gcd(B_1,B_2)=3 \neq 1=\gcd(C_1,C_2)$  .

In the second test case, it is impossible to find a solution. For example, suppose you distributed the first 3 elements to array B and then the last element to array C. You have B=[5,5,5] and C=[5], but  $\gcd(B_1,B_2,B_3)=5=\gcd(C_1)$ . Hence it is invalid.

# Contest is running 02:06:12 Contestant



→ Last submissions		
Submission	Time	Verdict
318459026	May/05/2025 17:40	Pretests passed

→ Score table		
	Score	
<u>Problem A</u>	245	
<u>Problem B</u>	735	
<u>Problem C</u>	1470	
<u>Problem D</u>	1960	
<u>Problem E</u>	2695	
<u>Problem F1</u>	2205	
<u>Problem F2</u>	2450	
Successful hack	100	
Unsuccessful hack	-50	
Unsuccessful submission	-50	
Resubmission	-50	

<sup>\*</sup> If you solve problem on 00:05 from the first attempt

 $<sup>\</sup>overline{{}^*\mathrm{gcd}(x,y)}$  denotes the greatest common divisor (GCD) of integers x and y.

