Producing 3s

For each test case, you are given an array *a* with *n* integers. For each a_i you may multiply by any subset of the previous elements in the array (subset may be empty). The goal is to have the ones (unit) digit of the product be the digit 3.

Input:
The first line gives the number of test cases t ($1 \le t \le 10^3$)
The first line of each test case gives the size of the array, n ($1 \le n \le 10^6$)
The sum of all n is less than $n \le 5 \cdot 10^6$.
The second line of each test case gives n integers, a_i ($-10^9 \le a_i \le 10^9$)

Output:
For each test case, print a string of length n consisting of "N"'s and "Y"'s. For each element a_i, on the i-th character use a "Y" if it is possible to create a product with a 3 in the ones place or a "N" if it is not possible.

Sample Input:
2
10
5 2 9 8 3 7 6 1 4 10
5
3 7 2 7 7

Sample Output:
NNNNYYNYNN
YNNNY

Explanation for first sample test case:
The 3 works without multiplying any previous element.
The 7 works due to 7 * 9, which is 63, which has a 3 as it's ones (unit) digit
The 1 works due to 1 * 3, which is 3