#### Sum to 0

You are given an integer N.

Construct an array A of size N, with all non-zero elements, such that the sum of elements is 0 and that the absolute values of all elements do not exceed 3.

Formally, find an array A of N elements such that:

- $A_1 + A_2 + \ldots + A_N = 0$
- $|A_i|$  is either 1, 2 or 3.

If multiple answers exist, all will be accepted. If no answer exists, print -1.

## **Input Format**

- ullet The first line of input will contain a single integer T, denoting the number of test cases.
- The first and only line of each input contains N the size of the array.

## **Output Format**

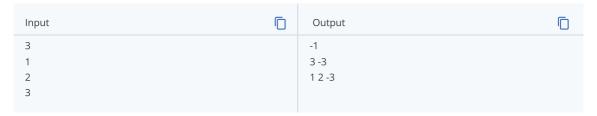
For each test case, output on a new line N integers,  $A_1,A_2,\dots A_N$  satisfying the conditions or -1 if no solution.

If multiple answer exists, all will be accepted.

### Constraints

- $1 \le T \le 50$
- $1 \le N \le 50$

## Sample 1:



# **Explanation:**

**Test Case 1**: There exists no valid arrays of size 1.

 $\textbf{Test Case 2}: \textbf{The arrays} \ [1,-1], \ [-1,1], \ [2,-2], \ [-2,2], \ [3,-3] \ \text{ and } \ [-3,3] \ \text{ are all accepted}.$