

# Problem C

## Number

**Input:** Standard Input  
**Output:** Standard Output  
**Time Limit:** 1 Second

Given a positive integer  $n$ , you are to find an integer  $f$ , such that:  
$$f^3 = a_1^3 + a_2^3 + \dots + a_n^3$$

where all  $a_1, a_2, \dots, a_n$  are distinct positive integers.

For example,

if  $n = 3$ , one valid  $f$  is 71, since  $71^3 = 14^3 + 23^3 + 70^3 = 357911$ .

if  $n = 4$ , one valid  $f$  is 100, since  $100^3 = 56^3 + 58^3 + 67^3 + 69^3 = 1000000$ .

Your number  $f$  may be big, but it has at most **250** digits.

### Input

The first line contains the number of tests  $t$  ( $1 \leq t \leq 20$ ). Each case contains a single line with a positive integer  $n$  ( $1 \leq n \leq 100$ ).

### Output

For each test case, print the case number and  $n+1$  numbers:  $f, a_1, a_2, \dots, a_n$ . If no  $f$  exists, print a **-1** and  $n$  zeros.

### Sample Input

3  
3  
2  
4

### Output for Sample Input

Case 1: 71 14 23 70  
Case 2: -1 0 0  
Case 3: 100 56 58 67 69

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**Problem idea, statement, solution provider:** Rujia Liu, Member of Elite Problemsetters' Panel  
**Problem Solution and Special Judge:** Monirul Hasan, Member of Elite Problemsetters' Panel