# **Sherlock and The Beast**



Sherlock Holmes suspects his archenemy Professor Moriarty is once again plotting something diabolical. Sherlock's companion, Dr. Watson, suggests Moriarty may be responsible for MI6's recent issues with their supercomputer, *The Beast*.

Shortly after resolving to investigate, Sherlock receives a note from Moriarty boasting about infecting *The Beast* with a virus. He also gives him a clue: an integer. Sherlock determines the key to removing the virus is to find the largest *Decent Number* having that number of digits.

A *Decent Number* has the following properties:

- 1. Its digits can only be 3's and/or 5's.
- 2. The number of 3's it contains is divisible by 5.
- 3. The number of 5's it contains is divisible by 3.
- 4. It is the largest such number for its length.

Moriarty's virus shows a clock counting down to *The Beast*'s destruction, and time is running out fast. Your task is to help Sherlock find the key before *The Beast* is destroyed!

For example, the numbers 55533333 and 555555 are both decent numbers because there are 35's and 53's in the first, and 55's in the second. They are the largest values for those length numbers that have proper divisibility of digit occurrences.

#### **Function Description**

Complete the *decentNumber* function in the editor below. It should print the decent number for the given length, or -1 if a decent number of that length cannot be formed.

decentNumber has the following parameter(s):

• *n*: the integer length of the decent number to create

## **Input Format**

The first line is an integer, t, denoting the number of test cases.

The next t lines each contain an integer n, the number of digits in the number.

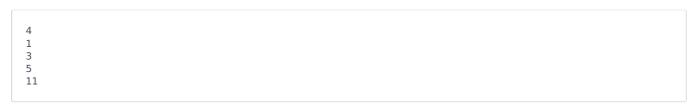
#### **Constraints**

$$\begin{array}{l} 1 \leq t \leq 20 \\ 1 \leq n \leq 100000 \end{array}$$

### **Output Format**

Print the *Decent Number* having n digits; if no such number exists, tell Sherlock by printing -1.

#### Sample Input



-1 555 33333 55555533333

# **Explanation**

For n = 1, there is no *Decent Number* having 1 digit (so we print -1).

For n=3, 555 is the only possible number. ( *Decent Number Property 3*).

For n=5, 33333 is the only possible number. ( *Decent Number Property 2*).

For n=11, 55555533333 is the *Decent Number*. All other permutations of these digits are not *decent (Decent Number Property 4*).