



## 2: Thinking about the Roman Empire

**Level:** Trivial

**Time limit:** 0.2 seconds

We all sometimes think about the Roman Empire, the board of **via** does it every day. The board of **via** thinks the most about the Roman numerals. These numerals were wildly used in Europe well into the Late Middle Ages. It is different than the Arabic system we use now (0-9). Over the many years a lot of different Roman numerals were used, this caused a lot of frequent confusion.

The “modern” style only uses the following seven:

I	V	X	L	C	D	M
1	5	10	50	100	500	1000

One of the board’s favourite facts is the very common misunderstanding that Roman numerals always use a subtractive syntax. In a subtractive syntax, a lower digit written before a larger one will be subtracted. 4 can be written as IIII or IV ( $5 - 1$ ). Romans themselves only used the subtractive syntax for small numbers. For larger numbers it was avoided. The number 499 can be written as ID, LDVLIIV, VDIV or XDIX

You are given  $n$  numbers written in the Roman numeral system. Your objective is to convert them back to the normal Arabic system. To make it more simple, we will subtract any digit written to the left of a larger one, even if they are not directly adjacent.

### Input

The first line contains one integer  $n$  ( $0 < n \leq 10^3$ ). After that  $n$  lines follow, with at each containing up to  $3 \cdot 10^5$  Roman digits.

## Output

Output the corresponding Arabic numbers, one per line.

### Sample input 1

5  
IIIIIVX  
VX  
XV  
ID  
CDXCIX

### Sample output 1

-1  
5  
15  
499  
499