

12. Integer to Roman

Description

Roman numerals are represented by seven different symbols: `I` , `V` , `X` , `L` , `C` , `D` and `M` .

| Symbol | Value |
|--------|-------|
| I | 1 |
| V | 5 |
| X | 10 |
| L | 50 |
| C | 100 |
| D | 500 |
| M | 1000 |

For example, `2` is written as `II` in Roman numeral, just two one's added together. `12` is written as `XII` , which is simply `X + II` . The number `27` is written as `XXVII` , which is `XX + V + II` .

Roman numerals are usually written largest to smallest from left to right. However, the numeral for four is not `IIII` . Instead, the number four is written as `IV` . Because the one is before the five we subtract it making four. The same principle applies to the number nine, which is written as `IX` . There are six instances where subtraction is used:

- `I` can be placed before `V` (5) and `X` (10) to make 4 and 9.
- `X` can be placed before `L` (50) and `C` (100) to make 40 and 90.
- `C` can be placed before `D` (500) and `M` (1000) to make 400 and 900.

Given an integer, convert it to a roman numeral.

Example 1:

Input: num = 3
Output: "III"
Explanation: 3 is represented as 3 ones.

Example 2:

Input: num = 58
Output: "LVIII"
Explanation: L = 50, V = 5, III = 3.

Example 3:

Input: num = 1994
Output: "MCMXCIV"
Explanation: M = 1000, CM = 900, XC = 90 and IV = 4.

Constraints:

- `1 <= num <= 3999`

