12. Integer to Roman

Seven different symbols represent Roman numerals with the following values:

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

Roman numerals are formed by appending the conversions of decimal place values from highest to lowest. Converting a decimal place value into a Roman numeral has the following rules:

- If the value does not start with 4 or 9, select the symbol of the maximal value that can be subtracted from the input, append that symbol to the result, subtract its value, and convert the remainder to a Roman numeral.

- If the value starts with 4 or 9 use the **subtractive form** representing one symbol subtracted from the following symbol, for example, 4 is 1 (I) less than 5 (V): IV and 9 is 1 (I) less than 10 (X): IX. Only the following subtractive forms are used: 4 (IV), 9 (IX), 40 (XL), 90 (XC), 400 (CD) and 900 (CM).

- Only powers of 10 (I, X, C, M) can be appended consecutively at most 3 times to represent multiples of 10. You cannot append 5 (V), 50 (L), or 500 (D) multiple times. If you need to append a symbol 4 times use the **subtractive form**.

Given an integer, convert it to a Roman numeral.

Example 1:

Input: num = 3749

Output: "MMMDCCXLIX"

Explanation:

3000 = MMM as 1000 (M) + 1000 (M) + 1000 (M)

700 = DCC as 500 (D) + 100 (C) + 100 (C)

40 = XL as 10 (X) less of 50 (L)

9 = IX as 1 (I) less of 10 (X)

Note: 49 is not 1 (I) less of 50 (L) because the conversion is based on decimal places

Example 2:

Input: num = 58

Output: "LVIII"

Explanation:

50 = L

8 = VIII

Example 3:

Input: num = 1994

Output: "MCMXCIV"

Explanation:

1000 = M

900 = CM

90 = XC

4 = IV

Constraints:

- 1 <= num <= 3999