

## Convert an integer to Roman Number

Write a Java Program to convert a given integer that less than 4000 to a Roman Number representation.

The following details could help you know about Roman numbers and their conversion rules.

### The Roman Symbols

Romans Numerals are based on the following symbols:

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

### Basic Combinations

Which can be combined like this:

1	2	3	4	5	6	7	8	9
I	II	III	IV	V	VI	VII	VIII	IX

10	20	30	40	50	60	70	80	90
X	XX	XXX	XL	L	LX	LXX	LXXX	XC

100	200	300	400	500	600	700	800	900
C	CC	CCC	CD	D	DC	DCC	DCCC	CM

### Forming Numbers - The Rules

1) When a symbol appears **after a larger** symbol it is **added**

- Example: VI = V + I = 5 + 1 = 6

2) But if the symbol appears **before a larger** symbol it is **subtracted**

- Example: IX = X - I = 10 - 1 = 9

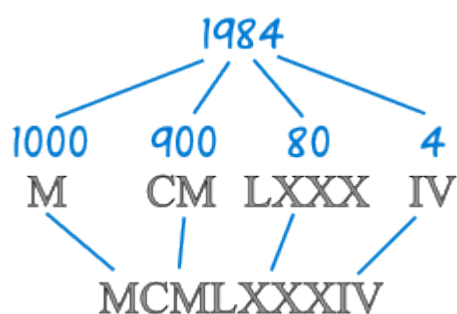
3) Don't use the same symbol more than three times in a row.

**What are the rules for subtracting letters? Can I write MIM for 1999? What about IIII for 4?**

Here are the official rules for subtracting letters:

- Subtract only powers of ten, such as I, X, or C. Writing VL for 45 is not allowed: write XLV instead.
- Subtract only a single letter from a single numeral. Write VIII for 8, not IIX; 19 is XIX, not IXX.
- Don't subtract a letter from another letter more than ten times greater. This means that you can only subtract I from V or X, and X from L or C, so MIM is illegal.

**Example: Convert 1984 to Roman Numerals.**



Break 1984 into 1000, 900, 80 and 4, then do each conversion

- 1000 = M
- 900 = CM
- 80 = LXXX
- 4 = IV

$1000 + 900 + 80 + 4 = 1984$ , so **1984 = MCMLXXXIV**