

Roman Numeral Calculator

Problem #6

Novice / Advanced

7 points

C programmers: your program name must be: prob06.exe
JAVA programmers: your program name must be: Prob06.class



Task Description

In this problem you are going to create a Roman numeral calculator. This calculator will need to accept two numbers (in Roman numeral form) and then allow a single mathematical operation to be performed. Some examples of equations your calculator should be able to handle are:

$$XI + V = XVI$$

$$X - V = V$$

$$X / V = II$$

$$II * V = X$$

The Roman numerals you will need to comprehend are:

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

To represent other values, these symbols, and multiples where necessary, are concatenated, with the smaller-valued symbols written further to the right. For example, the number 3 is represented as "III", and the value 73 is represented as "LXXIII". The exceptions to this rule occur for numbers having units values of 4 or 9, for tens values of 40 or 90, and for hundreds values of 400 and 900. For these cases, the Roman numeral representations are "IV" (4), "IX" (9), "XL" (40), "XC" (90), "CD" (400), and "CM" (900). So the Roman numeral representations for 24, 39, 49, 449 and 999 are "XXIV", "XXXIX", "XLIX", "CDXLIX" and "CMXCIX", respectively.

Assume each number will be less than 4,000, and that the results of any requested division operation will be whole numbers. Prompt for the first operand, the operator, the second operand and then display the results.

Operand1 Operator Operand2 = Answer

Program Input

Input Operand 1: XXV

Input Operator: -

Input Operand 2 : V

Program Output

The result is: XX