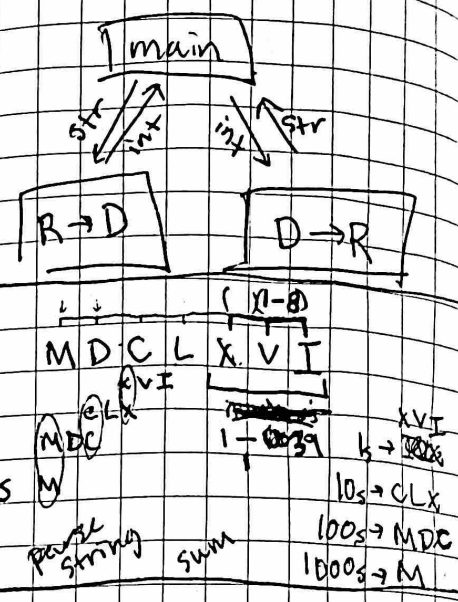


# Roman to decimal

**I** = 1    **II** = 2    **III** = 3    **IV** = 4  
**V** = 5    **VI** = 6    **VII** = 7    **VIII** = 8    **IX** = 9  
**X** = 10  
**L** = 50    **LXXXIX** = 89    **XC** = 90  
**C** = 100  
**D** = 500    **XL IX** = 49    **CDXCIX** = 499  
**M** = 1,000    **XCIX** = 99    **CMXCIX** = 999

Instruction

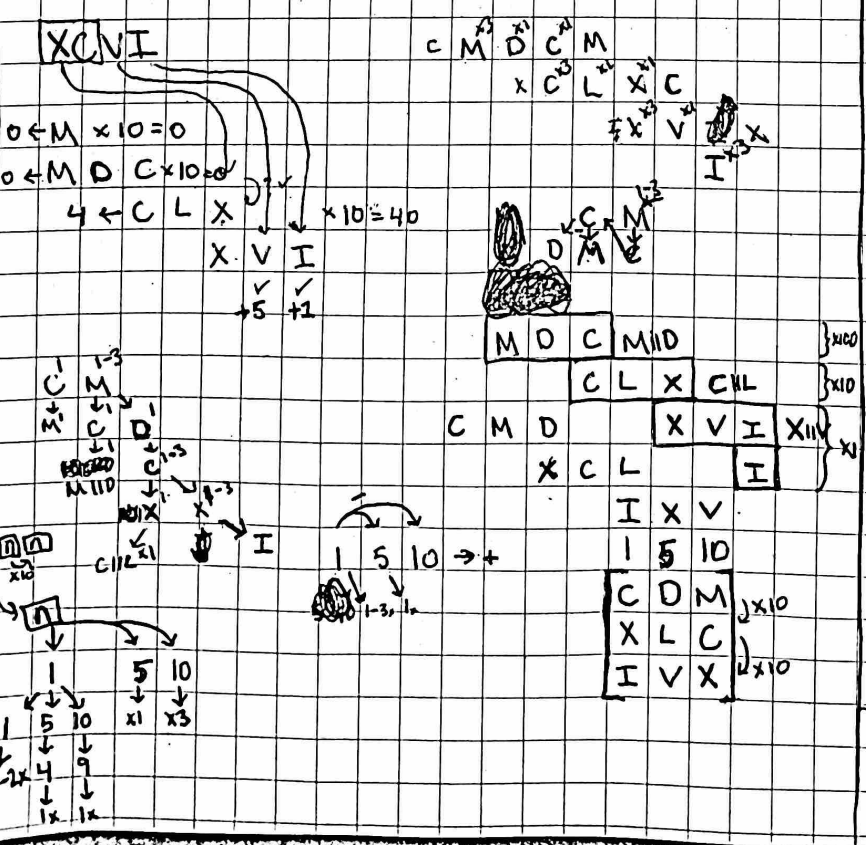
1. Values are combined
2. if symbol A is less than the one following it (B) A is subtracted from B
3. Subtractive notation only includes two symbols
4. A symbol may not precede  $n+1$



~~R to D(LXXXIX)~~  
~~for (each char in str)~~  
~~if (i < i+1)~~

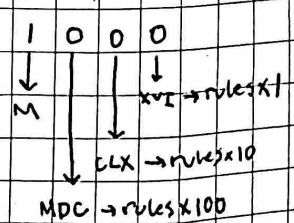
**R to D(str)**  
 int count = 0  
 for (i in str)  
 if (i < i+1) // IX

**R to D(str)**  
 for (i in str backwards)  
 if (i == I) { count++ }



- 1) The current char (i) is less than ~~the~~ i+1.
- 2) i = i+1
- 3) i > i+1
  - 1.a) if i < i+2 → invalid
  - 1.b) count += i - i+1
  - 2.a) continue until i+n != i
  - 2.b) if n > 10 → invalid
  - 2.c) count += i \* n
  - 3.a) count += i

I → 1-3	I - II
V → 4-8	IV - VIII
X → 9-39	IX - XXXIX
L → 40-89	XL - LXXXIX
C → 90-399	XC - CCCXCIX
D → 400-899	CD - CDCXCIX
M → 900-3999	CM - MMMCMXCIX



rules - ~~if I, X, C are at the end then count # of times before new char (can't exceed 3)~~  
 if it starts w/ ~~IV-M~~ check the next char ~~is correct~~  
~~I, X, C~~