I	1
V	5
X	10
L	50
C	100
D	500
M	1,000

Red letters can not be subtracted.

Special cases when converting from decimal, substraction

IV	4
IX	9
XL	40
XC	90
CD	400
CM	900

Rule / Case	Positive example	Negative example
values are combined by adding the values of the symbol together. (all values are descending from left to right)	III = 3 VII = 7	
If a symbol is placed before another letter of greater value, subtract that amount.	IV = 4 XL = 40	
Subtractive notation only ever involves two symbols.	XIV = 14 <table><tr><td>X</td><td>I</td><td>V</td></tr><tr><td>+10</td><td>-1</td><td>+5</td></tr></table> XCIV = 94 <table><tr><td>X</td><td>C</td><td>I</td><td>V</td></tr><tr><td>-10</td><td>+100</td><td>-1</td><td>+5</td></tr></table>	
A symbol can be repeated only for three times	CCC = 300 VIII = 8	CCCC is invalid VIIII is not 9
The symbols V (5), L(50), and D(500) are never subtracted, as they are not written before a greater value symbol.	LXV = 65	XVX is not 15, it is invalid
Symbol I can be subtracted from V and X only	IX = 9 IV = 4	IC is not 99, it is invalid IM is not 999, it is invalid
Symbol X can be subtracted from symbols L, C only.	XL = 40 XC = 90	XM is not 1000-10=990, it is invalid XD is not 500-10 = 490, it is invalid
Symbol C can be subtracted from symbols D and M only (obviously, those are the only numbers greater than C)		
There is no 0		0 is invalid
Nothing greater than 3999		

Input loops

- Conversion mode (1 or 2 for roman to decimal and viceversa) (validation: only 1,2 or 3)
    - 1 - Roman Numeral to Decimal (validation: only IVXLCDM, or nothing to exit, or x to exit)
        - Displays ConverterToDecimal.convert(input)
            - .convert() needs to be able to validate the rules of roman numbers
    - 2 - Decimal to Roman Numeral (validation: only integers > 0 and < 4000, or x to exit)
        - Displays ConverterToRoman.convert(input)
    - 3 - exit

Class Table (make it a singleton?):

- I need to be able to get an integer by having a roman letter (ConverterToDecimal.convert)
- I dont need to a retrieve roman letter having the integer
- I need to have a descending order in my list (1000->900->500 ...)

- Responsability:
    - Retrieve the table with the roman numbers and their value
- data members:
    - LinkedHashMap<String, Integer> table
    - LinkedHashMap because it is ordered (I need that for traversing) and I need key, value pairs
    -

key	value
M	1,000
CM	900
D	500
CD	400
C	100
XC	90
L	50
XL	40
X	10
IX	9
V	5
IV	4
I	1

- methods:
    - getDecimal(tomanChar)
    - getTable()

Class ConverterToRoman
responsability: convert numbers from decimal to roman numeral

- data members
    - no
- Constructor
- methods
    - conver

Class ConverterToDecimal

responsability: convert roman =numerals to decimal numbers

- data members
  - no
- Constructor
- methods
  - convert
  - validateRules() (maybe write only after I have everything else)
    - is there any symbol that is repeated more than 3 times in a row
  -

- [ ] Comment code
- [ ] README
- [ ] Create folder with documentation
- [x] Create jar
  - [x] run jar | java -jar RomanNumerals.jar
  - [ ]

- **Submission Instructions:** Your submission must include the following components in your GitHub repository:
  - **The runtime/executable version of your program suitable for Windows.**
  - **Complete source code and necessary files for compiling and executing the program.**
  - **Detailed notes and documentation, including your thought process and any unfinished work. Including photos of handwritten notes.**
  - **If applicable, include any external dependencies required for your solution and specify these in your GitHub readme file.**
  - **Specify the time spent on the challenge along with any additional documentation or comments you deem necessary also in your readme file.**
  - **Email the GitHub repository URL to mark_crowther@byu.edu by the specified deadline. Early submissions are welcome and encouraged.**