GoFigure

Given a String "123123246" add a single '+' and a single '=' sign to create a true expression. For example:

- "123123246" → "123+123=246"
- "2084104" → "20+84=104

The String will contain only the digits 0..9 and will not contain spaces. The string being returned should only the digits 0..9 and one plus sign ("+") and one equal sign ("=").

The correct solution will always contain numbers less than Integer.MAX_VALUE

You will complete three methods in this problem. All three methods perform the operation mentioned above.

- The first method will perform the given operation in decimal math.
- The second method performs the given operation in binary mathematics.
- The third and final method will perform the given operation for Roman Numerals.
  note: For this method the String will contain only I, V, X, L, C, D and/or M.

According to Wikipedia:

Roman Numerals, as used today, are based on seven symbols:

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

Numbers are formed by combining symbols together and adding the values. So II is two ones, i.e. 2, and XIII is a ten and three ones, i.e. 13. There is no zero in this system, so 207, for example, is CCVII, using the symbols for two hundreds, a five and two ones. 1066 is MLXVI, one thousand, fifty and ten, a five and a one.

Symbols are placed from left to right in order of value, starting with the largest. However, in a few specific cases, to avoid four characters being repeated in succession (such as IIII or XXXX) these can be reduced using subtractive notation as follows:

- the numeral I can be placed before V and X to make 4 units (IV) and 9 units (IX) respectively
- X can be placed before L and C to make 40 (XL) and 90 (XC) respectively
- C can be placed before D and M to make 400 and 900 according to the same pattern

An example using the above rules would be 1904: this is composed of 1 (one thousand), 9 (nine hundreds), 0 (zero tens), and 4 (four units). To write the Roman numeral, each of the non-zero digits should be treated separately. Thus 1,000 = M, 900 = CM, and 4 = IV. Therefore, 1904 is MCMIV. This reflects typical modern usage rather than a universally accepted convention: historically Roman numerals were often written less consistently.

Below are some examples of the modern use of Roman Numerals.

Roman Numeral	CCXLIII	CDXIV	MCMIV	MCMLIV	MCMXC	MMVIII
Decimal Value	243	414	1904	1954	1990	2008

Upper Bound of Roman Numeral: 0 ≤ str ≤ MMMDCCCLXXXVIII

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While it is possible that some Strings may have more than one correct solution, these Strings have been specially selected as they contain exactly one correct solution.

Note: The method `goFigureRomanNumeral` will not return any Roman Numeral with four consecutive symbols. For example, IIII is never used. IV will always be used to represent a decimal 4.

Sample code:
Using the declaration:

```
GoFigure gf = new GoFigure();
```

The following table shows the results of several method calls.

The method	Returns the value
`gf.goFigureDecimal("123123246")`	`"123+123=246"`
`gf.goFigureBinary("10100101011110")`	`"10100+1010=11110"`
`gf.goFigureRomanNumeral("MXIIICCCLXMCCCLXXIII")`	`"MXIII+CCCLX=MCCCLXXIII"`