Problem B
Make Numbers

Time limit: 1 second

Memory limit: 1024 megabytes

Problem Description

Peter is a math teacher at an elementary school. To familiarize students with three basic arithmetic operations plus (+), minus (−) and times (×), he gives a simple arithmetic puzzle as homework. The puzzle is that you are given 4 digits, and you are told to build as many non-negative integers as possible using just those 4 digits and at least one of the three basic arithmetic operations. For example, you are given 1,1,2,1 as the digits, and then you can build 32 non-negative integers as Table 1.

Table 1: Numbers made by 1,1,2,1.

$0 = 2 - 1 - 1 \times 1$	$22 = 21 + 1 \times 1$
$1 = 2 + 1 - 1 - 1$	$23 = 21 + 1 + 1$
$2 = 2 + 1 - 1 \times 1$	$32 = 21 + 11$
$3 = 2 + 1 + 1 - 1$	$109 = 111 - 2$
$4 = 2 + 1 + 1 \times 1$	$111 = 112 - 1$
$5 = 2 + 1 + 1 + 1$	$112 = 112 \times 1$
$8 = 11 - 2 - 1$	$113 = 112 + 1$
$9 = 11 - 2 \times 1$	$120 = 121 - 1$
$10 = 12 - 1 - 1$	$121 = 121 \times 1$
$11 = 12 - 1 \times 1$	$122 = 121 + 1$
$12 = 12 + 1 - 1$	$132 = 12 \times 11$
$13 = 12 + 1 \times 1$	$210 = 211 - 1$
$14 = 12 + 1 + 1$	$211 = 211 \times 1$
$19 = 21 - 1 - 1$	$212 = 211 + 1$
$20 = 21 - 1 \times 1$	$222 = 111 \times 2$
$21 = 21 + 1 - 1$	$231 = 21 \times 11$

To check whether the student's answer includes all possible integers, Peter needs to know the total number of non-negative integers that can be built for the puzzle. Please write a program to help Peter compute the total number.

Input Format

The input file contains 4 integers separated by a space in a line, which indicates the given digits.

Output Format

Output the total number of non-negative integers that can be built.

Technical Specification

- The expressions are composed by concatenating the 4 given digits and at least one operation in $\{+, -, \times\}$. The given digits are the elements in $\{1, 2, 3, \ldots 9\}$.
- The given digits are partitioned into several groups and the digits in each group are concatenated as a number in arbitrarily permutation order.
- The symbol $-$ can only be treated as a minus operator.
- The operations $+$ and $-$ have equal precedence.
- The operation $\times$ has higher precedence than $+$ and $-$.
- Operations with the highest precedence are evaluated first, and operations with equal precedence are evaluated from left to right.

Sample Input 1

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1 1 1 1
```

Sample Output 1

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15
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Sample Input 2

```
1 1 2 1
```

Sample Output 2

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32
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