

Problem I

Twenty Four, Again

Yes, we know ... we've used Challenge 24 before for contest problems. In case you've never heard of Challenge 24 (or have a very short memory) the object of the game is to take 4 given numbers (the *base values*) and determine if there is a way to produce the value 24 from them using the four basic arithmetic operations (and parentheses if needed). For example, given the four base values 3 5 5 2, you can produce 24 in many ways. Two of them are: $5 \times 5 - 3 + 2$ and $(3 + 5) \times (5 - 2)$. Recall that multiplication and division have precedence over addition and subtraction, and that equal-precedence operators are evaluated left-to-right.

This is all very familiar to most of you, but what you probably don't know is that you can *grade* the quality of the expressions used to produce 24. In fact, we're sure you don't know this since we've just made it up. Here's how it works: A perfect grade for an expression is 0. Each use of parentheses adds one point to the grade. Furthermore, each inversion (that is, a swap of two adjacent values) of the original ordering of the four base values adds two points. The first expression above has a grade of 4, since two inversions are used to move the 3 to the third position. The second expression has a better grade of 2 since it uses no inversions but two sets of parentheses. As a further example, the initial set of four base values 3 6 2 3 could produce an expression of grade 3 — namely $(3 + 6 + 3) \times 2$ — but it also has a perfect grade 0 expression — namely $3 \times 6 + 2 \times 3$. Needless to say, the lower the grade the “better” the expression.

Two additional rules we'll use: 1) you cannot use unary minus in any expression, so you can't take the base values 3 5 5 2 and produce the expression $-3 + 5 \times 5 + 2$, and 2) division can only be used if the result is an integer, so you can't take the base values 2 3 4 9 and produce the expression $2 / 3 \times 4 \times 9$.

Given a sequence of base values, determine the lowest graded expression resulting in the value 24. And by the way, the initial set of base values 3 5 5 2 has a grade 1 expression — can you find it?

Input

Input consists of a single line containing 4 base values. All base values are between 1 and 100, inclusive.

Output

Display the lowest grade possible using the sequence of base values. If it is not possible to produce 24, display *impossible*.

Sample Input 1

3 5 5 2

Sample Output 1

1

Sample Input 2

1 1 1 1

Sample Output 2

impossible
