

Ordinal Number

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 512 mebibytes

Ordinal numbers are an extension of the set of nonnegative integers. For each nonnegative integer x , we will establish the corresponding ordinal number $f(x)$. The first few ordinal numbers can be defined as follows.

- Zero corresponds to an empty set:
 $f(0) = \{\}$.
- One corresponds to the set containing the set $f(0)$ as an element:
 $f(1) = \{f(0)\} = \{\{\}\}$.
- Two corresponds to the set containing the sets $f(0)$ and $f(1)$ as elements:
 $f(2) = \{f(0), f(1)\} = \{\{\}, \{\{\}\}\}$.
- And so on: each positive integer k corresponds to the set containing all the previous ordinal numbers as elements. The formula is:
 $f(k) = \{f(0), f(1), \dots, f(k-1)\}$.

Next, we can similarly define ordinal numbers that don't correspond to integers. Alas, we won't need them in this problem.

You are given a string describing an ordinal number corresponding to a nonnegative integer n . Find n .

Input

The first line contains the description of an ordinal number corresponding to a certain nonnegative integer n ($0 \leq n \leq 15$). It consists of the characters "{", "(", ")", and "}".

In the description of each set, each element appears exactly once. However, as a set does not change if we change the order of elements, this order can be arbitrary.

Output

Print the integer n corresponding to the given ordinal number.

Examples

<i>standard input</i>	<i>standard output</i>
{ }	0
{ { }	1
{ { }, { { }	2
{ { { } }, { { { } }, { { } }, { { }	3