Problem 1 – 9Gag Numbers

In 9Gag we like fun. We have a lot of time and we play with fun pictures and fun stories. Recently we invented a funny way to express numbers. We use the following 9 digits:

0	- !
1	**
2	! ! !
3	&&
4	&-
5	! -
6	*! ! !
7	&*!
8	! !**! -

We write the numbers as sequences digits from our 9 available digits given above. The last digit of the number (the most right one) has a value as shown in the above table. The next digit on the left has a value 9 times bigger than the shown in the above table, the next digit on the left has 9*9 times bigger value than the shown in the table and so on. Your task is to write a program to **convert a 9Gag-style number into its corresponding decimal representation**.

Input

The input data consists of a single string – a 9Gag-style number.

The input data will always be valid and in the described format. There is no need to check it explicitly.

Output

The output data consists of a single line holding the calculated decimal representation of the given 9Gag-style number and should be printed at the console.

Constraints

- The input number will have between 1 and 20 digits.
- Allowed working time for your program: 0.1 seconds.
- Allowed memory: 16 MB.

Examples

Input	Output
*! ! !	6

Input	Output
***! ! !	15

Input	Output
! ! !**! -	176

Input	Output
! !**! - - ! ! -	653