

Problem 1 – Multiverse Communication

One day, after eating too much pizza, the **master-programmers** Niki, Toni and Ivo started talking about “highly-intelligent” topics – how the universe **started**, who created it, are there other **advanced** forms of life, what kind of girls are hot and so on. Suddenly they received an **answer** from beyond to one of the biggest mysteries for the mankind – there is more than one universe in the space-time continuum! As a matter of fact – they are **infinite** – a multiverse to rule them all! How cool is that, huh?

So, back to our story – somewhere in between the wormholes, dark matter and a lot of space-flying Zerg Mutalisks, there was another universe almost **identical** to ours. The very same day after eating too much spaghetti, Ikin, Inot and Ovi (being well trained Terran Ghosts), decided to send telepathically an **encrypted numerical message** to our well-known software engineers.

The sent message is made of the following digits:

0	CHU
1	TEL
2	OFT
3	IVA
4	EMY
5	VNB
6	POQ
7	ERI
8	CAD
9	K-A
10	IIA
11	YLO
12	PLA

The message is written as a **sequence of digits**. 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 **13** times bigger than the shown in the above table, the next digit on the left has **13*13** times bigger value than the shown in the table and so on. Since our masters are too lazy after so much pizza and do not want to think (and code C# too), your task is to **translate the message into its decimal representation**. With your help, our heroes can fall asleep calmly, knowing other universes exist somewhere.

Input

The input data consists of a single line – the message from the parallel universe.

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 message number and should be printed at the console.

Constraints

- The input number will have between 1 and 9 digits.
- Allowed working time for your program: 0.1 seconds.
- Allowed memory: 16 MB.

Examples

Input	Output	Explanation
OFT	2	From the table OFT means 2 in 13 th based numeral system. Message is 2 . After converting it to decimal – the answer is 2 .

Input	Output	Explanation
IVAYLO	50	From the table IVA means 3 and YLO means B (11) in 13 th based numeral system. Message is 3B . After converting it to decimal – the answer is 50 .

Input	Output	Explanation
TELERIK-ACADEMY	45569	From the table TEL means 1 , ERI means 7 , K-A means 9 , CAD means 8 and EMY means 4 in 13 th based numeral system. Message is 17984 . After converting it to decimal – the answer is 45569 .