

## Problem 1 – TRES4 Numbers

The **largest planet** in the known universe is **TRES4**. It is located in the **constellation Hercules**. For some strange coincidence the **TRES4nians** (the creatures that live on TRES4) use some of the **letters** in the **Latin alphabet** in their **numeral system**. What is even more surprising the digits in this numeral system, called **TRESNUM4**, also contain some **operators** that we use in **programming here on Earth**. All digits in **TRESNUM4** with their decimal representations are:

LON+	0
VK-	1
*ACAD	2
^MIM	3
ERIK	4
SEY&	5
EMY>>	6
/TEL	7
<<DON	8

A long time ago, Christopher, an eleven years old kid from Arizona, USA, who was extremely good at physics and astronomy, sent a message with the **integer coordinates of the Sun and the Earth** to the **constellation Hercules**. Earlier today the message has been received by the **TRES4nians**. The problem is they don't know how to **convert numbers from decimal numeral system to numbers in TRESNUM4 numeral system** and you, like the wisest TRES4nian, must help them by writing a computer program.

### Input

The input data consists of a single line – the integer number sent to the TRES4 planet.

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 TRESNUM4 number representation of the integer number.

### Constraints

- The input number will be between **0** and **18 000 000 000 000 000 000**.
- Allowed working time for your program: **0.1 seconds**.
- Allowed memory: **16 MB**.

### Examples

Input	Output
4	ERIK

Input	Output
154	VK-<<DONVK-

Input	Output
5451	/TELERIK *ACADEMY>>

Input	Output
891672	VK-EMY>>LON+<<DONVK-*ACADEMY>>