Problem 4 – Morse Code Numbers

"**Morse code**" is a method of transmitting text information as a series of on-off tones / lights / clicks / etc. All symbols are represented by "**.**" (**dots**) and "**-**" (**dashes**).

You are given a 4-digit number **n** (1000 ≤ **n** ≤ 9999). First, you have to calculate the sum of all digits of the number **n** called **nSum.** Write a program to **generate all sequences of 6 numbers** in the range 0…5**,** represented by their Morse code encodings **(0 = "-----", 1 = ".----", 2 = "..---", 3 = "...--", 4 = "....-", 5 = "....."),** such that **the product of these 6** numbers is **equal** to **nSum.** This product is called **morseProduct**. Put "**|**" (**pipe**) as a separator after each Morse code digit. These sequences of strings are called **"Morse code numbers"**. See the examples below for better understanding.

Input

- The input data should be read from the console.
- The number **n** stays at the first line.
- The input data will always be valid and in the format described. There is no need to check it explicitly.

Output

The output should be printed on the console as a sequence of strings (Morse code numbers), each at a separate line. The **order** of the output lines is not important. In case no **Morse code numbers** exist, print "**No**".

Constraints

- The number **n** will be an **integer** number in the range [1000…9999].
- Allowed working time for your program: 0.25 seconds.
- Allowed memory: 16 MB.

Examples

Input	Output	Comments
1000	.----|.----|.----|.----|.----|.----|	nSum = 1+0+0+0 = 1 morseProduct = 1*1*1*1*1*1 = 1

Input	Output	Comments
1001	.----|.----|.----|.----|.----|..---| .----|.----|.----|.----|..---|.----| .----|.----|.----|..---|.----|.----| .----|.----|..---|.----|.----|.----| .----|..---|.----|.----|.----|.----| ..---|.----|.----|.----|.----|.----|	nSum = 1+0+0+1 = 2 morseProduct = 1*1*1*1*1*2 = 2 morseProduct = 1*1*1*1*2*1 = 2 morseProduct = 1*1*1*2*1*1 = 2 morseProduct = 1*1*2*1*1*1 = 2 morseProduct = 1*2*1*1*1*1 = 2 morseProduct = 2*1*1*1*1*1 = 2

Input	Output	Comments
1231	No	nSum = 1+2+3+1 = 7 No Morse code numbers match the condition

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