## 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 |

|  |  |  |
| --- | --- | --- |
| **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 |

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