# A test of "programming for beginners" – 26 March 2016

## Task 6. Magic numbers

To write a program that introduces a whole **"magical"** number and makes **all** possible **6-digit numbers**for which **the product of its digits** is **equal** to the **"magic" number.**

**Example:**"Magic number"-> 2

        111112 -> 1 \* 1 \* 1 \* 1 \* 1 \* 2 = 2

        111121 -> 1 \* 1 \* 1 \* 1 \* 2 \* 1 = 2

        111211 -> 1 \* 1 \* 1 \* 2 \* 1 \* 1 = 2

        112111 -> 1 \* 1 \* 2 \* 1 \* 1 \* 1 = 2

        121111 -> 1 \* 2 \* 1 \* 1 \* 1 \* 1 = 2

        211111 -> 2 \* 1 \* 1 \* 1 \* 1 \* 1 = 2

### Login

The input is read from the console and consists of **a** **whole number** in the range [**1**... **600000**].

### Exit

The console should print **all** **" magic" numbers**separated by **a space**.

### Sample input and output

|  |  |
| --- | --- |
| **login** | **exit** |
| 2 | 11 111 2 11 11 2 1 11 1211 11 2111 1 21111 2 1 1111 |
| 8 | 111118 111124 111142 111181 111214 111222 111241 111412 111421 111811 112114 112122 112141 112212 112221 112411 114112 114121 114211 118111 121114 121122 121141 121212 121221 121411 122112 122121 122211 124111 141112 141121 141211 142111 181111 211114 211122 211141 211212 211221 211411 212112 212121 212211 214111 221112 221121 221211 222111 241111 411112 411121 411211 412111 421111 811111 |
| 531441 | 999999 |

Testing of the solution: [https://judge.softuni.bg/Contests/Compete/Index/179#5](https://www.microsofttranslator.com/bv.aspx?from=bg&to=en&a=https%3A%2F%2Fjudge.softuni.bg%2FContests%2FCompete%2FIndex%2F179%235).