**Problem 2 – Numerology**

Numerology involves a lot of repeated calculations, but as a programmer you can automate this process and earn some easy cash! You will be given the **birthdate** and **username** of a random fellow student. Your task is to calculate a **celestial** **number**. Below is a description of the process, see the example to understand your task better.

First, **multiply** together the numbers representing the **day**, **year** and **month** of the birthdate. Numerologists love odd numbers, so if the **month** is an **odd** number, you should **square** the result of the **multiplication**. Next, **add** to the result **each** **digit ('0' = 0, '1' = 1… '9' = 9)** or the **position** in the English alphabet of each letter in the username – e.g. **“a” = 1, “b” = 2**… “**z” = 26**. **Capital** letters weigh **twice** as much - the letter **“A”** will add **1\*2** to the sum, **“Z”** will add **2\*26**, etc.

13 is a sacral number and your celestial number should be between **0 and 13 inclusive**. So, if the resulting number is **greater** **than** **13** you should keep **adding** its **digits** together until you get the coveted celestial number in its final form. Then all you have to do is print it to the console! Whew! Numerology…

**Input**

The input data is read from the console.

* On the only input line you will be given **a date** in the format [**day.month.year]** and a **username, separated by a single space.**

The input data will always be valid and in the format described. There is no need to check it explicitly.

**Output**

* The output data must be printed on the console.
* On the only output line you must print the calculated **celestial number.**

**Constraints**

* The **date** will be in format **dd.mm.yyyy** and between 01.01.1900 and 31.12.2014.
* The **username** will be between 4 and 20 characters long and will contain only **digits (0-9) and upper-case and lower-case letters from the English alphabet** (no hyphens or non-English letters).
* Time limit: 0.25 seconds. Allowed memory: 16 MB.

**Examples**

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comments** |
| 14.03.1990 Panayot | 9 | 14 \* 3 \* 1990 = 83,580;  03 (odd month) => 83,580 \* 83,580 = 6,985,616,400;  6,985,616,400 + 2 \* 16 (P) + 1 (a) + 14 (n) + 1 (a) + 25 (y) + 15 (o) + 20 (t) = 6,985,616,508 ( > 13);  6 + 9 + 8 + 5 + 6 + 1 + 6 + 5 + 0 + 8 = 54 (> 13);  5 + 4 = 9 (∈ [0, 13] => Done!) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 01.01.1914 g0g0 | 5 | 25.05.1997 P360 | 6 |