Marie invented a Time Machine and wants to test it by time-traveling to visit Russia on the Day of the Programmer (the $256^{th}$ day of the year) during a year in the inclusive range from $1700$ to $2700$.

From $1700$ to $1917$, Russia's official calendar was the Julian calendar; since $1919$ they used the Gregorian calendar system. The transition from the Julian to Gregorian calendar system occurred in $1918$, when the next day after January $31^{st}$ was February $14^{th}$. This means that in $1918$, February $14^{th}$ was the $32^{nd}$ day of the year in Russia.

In both calendar systems, February is the only month with a variable amount of days; it has $29$ days during a *leap year*, and $28$ days during all other years. In the Julian calendar, leap years are divisible by $4$; in the Gregorian calendar, leap years are either of the following:

- Divisible by $400$.
- Divisible by $4$ and *not* divisible by $100$.

Given a year, $y$, find the date of the $256^{th}$ day of that year *according to the official Russian calendar during that year*. Then print it in the format `dd.mm.yyyy`, where `dd` is the two-digit day, `mm` is the two-digit month, and `yyyy` is $y$.

For example, the given $year = 1984$. $1984$ is divisible by $4$, so it is a leap year. The $256^{th}$ day of a leap year after $1918$ is September 12, so the answer is **12.09.1984**.

**Function Description**

Complete the *dayOfProgrammer* function in the editor below. It should return a string representing the date of the $256^{th}$ day of the year given.

dayOfProgrammer has the following parameter(s):

- *year*: an integer

**Input Format**

A single integer denoting year $y$.

**Constraints**

- $1700 \le y \le 2700$

**Output Format**

Print the full date of *Day of the Programmer* during year $y$ in the format `dd.mm.yyyy`, where `dd` is the two-digit day, `mm` is the two-digit month, and `yyyy` is $y$.

**Sample Input 0**

```
2017
```

**Sample Output 0**

```
13.09.2017
```

**Explanation 0**

In the year $y = 2017$, January has $31$ days, February has $28$ days, March has $31$ days, April has $30$ days, May has $31$ days, June has $30$ days, July has $31$ days, and August has $31$ days. When we sum the total number of days in the first eight months, we get $31 + 28 + 31 + 30 + 31 + 30 + 31 + 31 = 243$. Day of the Programmer is the $256^{th}$ day, so then calculate $256 - 243 = 13$ to determine that it falls on day $13$ of the $9^{th}$ month (September). We then print the full date in the specified format, which is `13.09.2017`.

**Sample Input 1**

```
2016
```

**Sample Output 1**

```
12.09.2016
```

**Explanation 1**

Year $y = 2016$ is a leap year, so February has $29$ days but all the other months have the same number of days as in $2017$. When we sum the total number of days in the first eight months, we get $31 + 29 + 31 + 30 + 31 + 30 + 31 + 31 = 244$. Day of the Programmer is the $256^{th}$ day, so then calculate $256 - 244 = 12$ to determine that it falls on day $12$ of the $9^{th}$ month (September). We then print the full date in the specified format, which is `12.09.2016`.

**Sample Input 2**

```
1800
```

**Sample Output 2**

```
12.09.1800
```

**Explanation 2**

Since 1800 is leap year. Day lies on 12 September.