

Day of the Programmer



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 .

Input Format

A single integer denoting year y .

Constraints

- $1700 \leq y \leq 2700$

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 **256th** day, so then calculate $256 - 244 = 12$ to determine that it falls on day **12** of the **9th** month (September). We then print the full date in the specified format, which is **12.09.2016**.