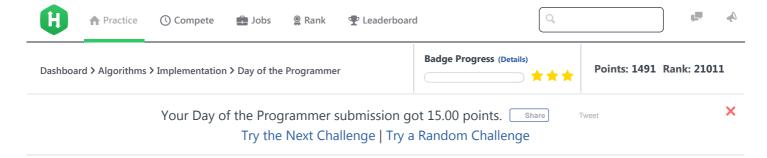
3/30/2018 HackerRank



# Day of the Programmer



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Marie invented a Time Machine and wants to test it by time-traveling to visit Russia on the Day of the Programmer (the **256**<sup>th</sup> 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  ${m y}$ 

## 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

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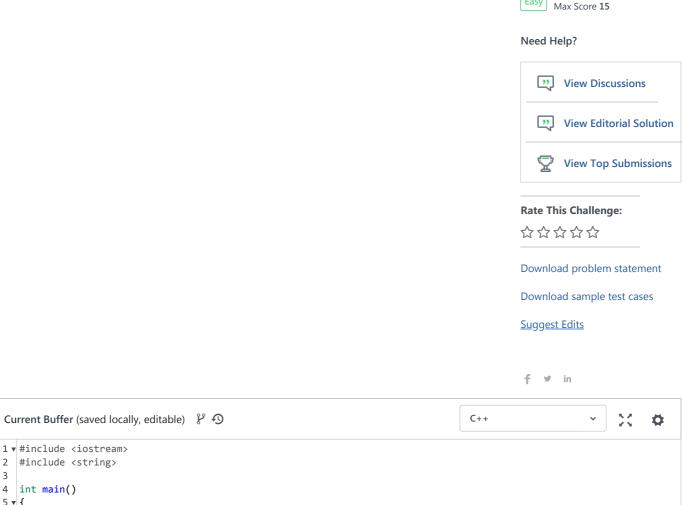
2016

#### 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.



```
1 ▼ #include <iostream>
 2 #include <string>
 3
 4
5 ▼ {
 6
        int year;
                      std::cin >> year;
 7
        int day = 13;
 8
        if(!(year%4) && (year < 1918 || year%100 || !(year%400)))
 9
            day--;
10
        if(year == 1918)
11
12
            day = 26;
13
        std::string answer = std::to_string(day) + ".09." + std::to_string(year);
14
15
        std::cout << answer << std::endl;</pre>
16
17
        return 0;
    }
18
19
                                                                                                                Line: 19 Col: 1
```

Test against custom input **1** Upload Code as File

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Easy

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✓ Test Case #3	✓ Test Case #4	✓ Test Case #5	
✓ Test Case #6	✓ Test Case #7	✓ Test Case #8	
✓ Test Case #9	✓ Test Case #10	✓ Test Case #11	
✓ Test Case #12	✓ Test Case #13	✓ Test Case #14	
✓ Test Case #15	✓ Test Case #16	✓ Test Case #17	
✓ Test Case #18	✓ Test Case #19	✓ Test Case #20	
✓ Test Case #21	✓ Test Case #22	✓ Test Case #23	
✓ Test Case #24	✓ Test Case #25	✓ Test Case #26	
✓ Test Case #27	✓ Test Case #28	✓ Test Case #29	
✓ Test Case #30	✓ Test Case #31	✓ Test Case #32	
✓ Test Case #33	✓ Test Case #34	✓ Test Case #35	
✓ Test Case #36	✓ Test Case #37	✓ Test Case #38	
✓ Test Case #39	✓ Test Case #40	✓ Test Case #41	
✓ Test Case #42	✓ Test Case #43	✓ Test Case #44	
✓ Test Case #45	✓ Test Case #46	✓ Test Case #47	
✓ Test Case #48	✓ Test Case #49	✓ Test Case #50	
✓ Test Case #51	✓ Test Case #52	✓ Test Case #53	
✓ Test Case #54	✓ Test Case #55	✓ Test Case #56	
✓ Test Case #57	✓ Test Case #58	✓ Test Case #59	
✓ Test Case #60			
		ve earned 15.00 points. Next Chall	

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