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**34th Annual High School Programming Contest**

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##### April 8, 2022

###### Green Problem #2: The Great Switch

Background Information: In the year 1752, America, along with other British colonies, switched from the Julian calendar to the Gregorian calendar, which we still use today. The difference between the two is subtle. In the Julian calendar, a leap year was every fourth year (divisible by 4), with no exceptions. In the Gregorian calendar, leap years occur most years that are divisible by four, with the following additional rules:

* Years that are divisible by 100 **are not** leap years **EXCEPT**
* Years that are divisible by 400 **are** leap years.

For example, the year 1900 was **not** a leap year, but the year 2000 **was** a leap year.

To make the switch from Julian to Gregorian in 1752, September 3 through September 13 were skipped in that year’s calendar. Thus, in 1752 (and only in that year), the day after September 2nd was September 14th. (Note that 1752 was also a leap year!)

Your program will read in a year (past, present, or future) and determine how many days into the year Christmas Day (December 25) occurs, accounting for:

* whether or not it is a leap year. (Remember that the rules are different for Julian and Gregorian!)
* the special case of the year 1752, in which days were skipped.

###### Programming Problem:

Input:  An AD year between 1000 and 3000 inclusive.

Output: An integer n representing the nth day of the year that Christmas Day occurs. January 1st is considered day one.

###### Example 1: Input:

######  2018

######

######  Output:

###### 359

###### Example 2: Input:

######  2020

######

######  Output:

360

###### Example 3: Input:

######  1500

######

######  Output:

360

######

###### Example 4: Input:

######  1800

######

######  Output:

359