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The Virtual Learning Environment for Computer Programming

## Day of the week <br> P18777_en

Write a function that, given a valid date made with a day $d$, a month $m$ and a year $y$, returns its day of the week, that is, "Monday", or "Tuesday", or ...
To compute it, use the congruence of Zeller. Let $d$ be the day, $m$ be the month, and $y$ be the year. Then,

1. Subtract two from the month $m$, and if the result is zero or less, add 12 to the month and subtract one from the year. Call $m^{\prime}$ the new month and call $y^{\prime}$ the new year.
2. Compute the century $c$ (the first two digits of the year) from the year $y^{\prime}$.
3. Compute the year $a$ inside the century (the two last digits of the year) from the year $y^{\prime}$.
4. Compute

$$
f=\left\lfloor 2.6 m^{\prime}-0.2\right\rfloor+d+a+\lfloor a / 4\rfloor+\lfloor c / 4\rfloor-2 c .
$$

5. Finally, $f$ modulo 7 gives us the desired result, taking into account that 0 represents Sunday, 1 represents Monday, 2 represents Tuesday, ..., and 6 represents Saturday.

## Interface

C++ string day_of_the_week (int $d$, int $m$, int $y$ );
C++ char* day_of_the_week (int $d$, int $m$, int $y$ );
Java public static String day_of_the_week (int $d$, int $m$, int $y$ );
Python day_of_the_week ( $d, m, y$ ) \# returns str day_of_the_week ( $d:$ int, m: int, $y:$ int $) \rightarrow$ str
Haskell dayOfTheWeek $::$ Int $\rightarrow$ Int $\rightarrow$ Int $\rightarrow$ String

## Precondition

The parameter $y$ is between 1800 and 9999, both included. The date is valid.

## Hint

Watch out for modulos of negative numbers!

## Observation

You only need to submit the required procedure; your main program will be ignored.

## Problem information

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