

CS110: Computer Programming Lab

Department of CSE

IIT, Guwahati

Module 01 Stage 02 Exercise 01

Please read Module01 Stage02 Practice Drill before you continue further in this document.

Problem description

Wikipedia.org describes a way to find weekday for any date using Zeller's congruence. A useful version of the congruence for computer implementation is expressed by formula:

$$h = \left(q + \left\lfloor \frac{13(m+1)}{5} \right\rfloor + Y + \left\lfloor \frac{Y}{4} \right\rfloor - \left\lfloor \frac{Y}{100} \right\rfloor + \left\lfloor \frac{Y}{400} \right\rfloor \right) \bmod 7,$$

where

- h is the day of the week (0 = Saturday, 1 = Sunday, 2 = Monday, ..., 6 = Friday)
- q is the day of the month
- m is the month (3 = March, 4 = April, 5 = May, ..., 14 = February)
- Y is modified year, which is $(year - 1)$ during January and February.

The output of your program must report the day of the week as an integer values between 1 and 7; with 1 denoting Monday and 7 denoting Sunday. You can easily derive the numbers for the other weekdays.

A sample output is suggested below:

Date 11-11-2017 is weekday 6.

Programming Advice

It is obvious that the program needs to get three `int` values `dd`, `mm`, and `yyyy` as specification of the date. These values are used to compute values for variables q , m , and Y . The computed value for variable h will then be used to compute the matching value for variable `weekday` edict suggested in the problem specification.

Printing of the result is quite easy using `dd`, `mm`, `yyyy`, and `weekday` values.