CS110: Computer Programming Lab
Department of CSE
IIT, Guwahati

Module 01 Stage 02 Exercise 02

Please read Module 01 Stage 02 Practice Drill document before you attempt this exercise.

Problem description

Given a date within this year, find the day of the week based on the fact that 01 January 2001 was a Monday (day 1).

Print the result as per the following format:

```
1-1-2018 is weekday 1
```

Guiding instructions

The problem can be solved easily by counting the number of days to the given target date since the 01 January 2001. The solution can be simplified considerably if we note that the day of the week repeats every 7 days. We only need to add the number of days in modulo 7 mode.

Let there be three program variables `dd`, `mm` and `yyyy` to represent the date. Year yyyy is current year and we know if it is a leap year or not. Days from the date 1-1-yyyy to 1-mm-yyyy can be determined by a sequence of assignment statements (one for each month in this year mm-yyyy) of the form:

```
days_to_month_start = (mm == 2)?3:days_to_month_start;
```

The statement sets `days_to_month_start` for the month if `mm` matches the number in the test. Otherwise, `days_to_month_start` is left unchanged.

Count of days to the start of the current year is easily done by noting the number of full years from 1-1-2001 to 1-1-yyyy. And making necessary corrections based on the number of leap years in this span.

From the computed values it is now easy to determine the number of days to the specified date in modulo 7 form.