

## Lab 6

Design and implement a java program which asks the user to enter a year greater than 1582. Your program then displays which day of the week is the first day of January of that year.

The following is a screen sample of the program:

```
Please enter a year greater than 1582:
2017
```

```
The first day of January 2017 is on Sunday
```

Note:

- Please name your class DayOfWeek

Use the Zeller's Congruence, to compute a single digit, **0** to **6**, for Sunday through Saturday. For example, **22/10/1999** has occurred on Friday so the zellers(1999, 10, 22) returns **5** representing Friday.

### **Zeller's Algorithm**

Define Terms

- 0.1 Given the YEAR, MONTH and DAY, representing a date.
- 0.2 Let DayNumber be the an integer number representing the day of the week( 0 represents Sunday, 6 represents Saturday)
- 0.3 Let StartMonth, StartYear, and LeapFactor be three integer variables used in the calculation

Start

1. IF MONTH < 3
  - 1.1 StartMonth = 0
  - 1.2 StartYear = YEAR - 1

OTHERWISE

- 1.3 StartMonth = INT (0.4 \* MONTH + 2.3)
- 1.4 StartYear = YEAR

2. LeapFactor = (StartYear / 4) - (StartYear / 100) + (StartYear / 400)

3. RETURN DayNumber = ((365 \* YEAR + 31 \* (MONTH - 1) + DAY + LeapFactor - StartMonth) - 1) MOD 7

