

605.201

Introduction to Programming Using Java

Assignment 4

1. Write a program that prompts the user to enter a month (1-12) and a year (e.g., 2012), and then displays a calendar for that month and year as illustrated below:

```
January 2012
-----
Sun Mon Tue Wed Thu Fri Sat
  1  2  3  4  5  6  7
  8  9 10 11 12 13 14
 15 16 17 18 19 20 21
 22 23 24 25 26 27 28
 29 30 31
```

Your program must use the following methods:

Method	Description
void printMonthCalendar(int m, int y)	Displays a calendar like the one above for a specified month and year.
void printMonthHeader(int m, int y)	Displays the header information (month, year, line separator, 3-character day names) for a calendar.
void printMonthBody(int m, int y)	Displays the days in the calendar associated with the corresponding days of the week.
String getMonthName(int m)	Returns the name of the month for a specified month number (e.g., returns March for m=3).
int getStartDay(int m, int d, int y)	Returns the day of week number (1=Monday,..., 7= Sunday) for the specified month, day, and year. Note this only works for the 1 st day of the month.
int getNumDaysInMonth(int m, int y)	Returns the number of days in a specified month and year. Leap years are accounted for.
boolean isLeapYear(int y)	Returns true if the specified year is a leap year, and returns false otherwise.

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Code for the `getStartDay()` method can be downloaded from the course website. You must write the code for the remaining methods. Be sure to clearly document your code and your methods.

2. Write a program that prompts the user to specify a year (e.g., 2012) and then displays a calendar for each month in that year. You must reuse the methods from part one.

Submit the source code and screen shots of each program's output in a zip file named as follows: Assignment3 followed by an underscore (`_`) followed by your first name initial, followed by your last name, followed by your course section number. For example, if your name is Jane Smith and you are in section 81 your zip file would be *Assignment3_jsmith81.zip*.