**Lab 03**

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**General instructions:**

Create a java application project naming the java file as Lab03\_2A\_ID where ID is your student ID. The example snippets will use the general class name Lab03\_2A without the ID portion. If there are multiple tasks, you don’t have to create separate projects for each task. A single project file should contain all the .java files that would be necessary to satisfy all the tasks given here.

Alternately, you can submit just the required .java files (without the project). Be sure to name the .java file with the main function as Lab03\_2A\_ID.java.

**Tasks:**

The following is the public class that contains the main function:

import java.util.\*;  
public class Lab03\_2A {  
 public static void main(String[] args) {  
 Calendar c = new Calendar();  
 Scanner sc = new Scanner(System.in);  
  
 System.out.println("Enter a date in the format DD/MM/YYYY: ");  
 String d = sc.nextLine();  
 c.setDate(d);  
  
 if (c.isValidDate()) {  
 System.out.println("Leap year: " + c.isLeapYear());  
 System.out.println("Day: " + c.dayOfWeek); *//Sunday/Monday/...* System.out.println("Next date: " + c.nextDate());  
 System.out.println("Previous date: " + c.previousDate());  
 } else System.out.println("Not a valid date.");  
 }  
}

JAVA

You can copy paste the above code for the class with the main function. When giving input for date, consider that the valid range of year for the date is from 1 AD to 9999 AD.

**Your task is to create the Calendar class in a separate .java file and implement all the necessary methods that are being called in the Lab03\_2A class.**

Note that the date string that is being taken as input may be invalid in various ways, either because the format is wrong, or because the input was something like “30/02/1995” (notice that last date of February is 28, or 29 if it is leap year). The nextDate() and previousDate() functions should output the date in the same format “DD/MM/YYYY”.