**Computer Science 2**   **Lab # 01**



**Dr. Hanh Pham**

**Student Last Name: Martinez Student First Name: Adriel**

**CS2 Section # 01**

**Due:** Problem A by the **end of the lab** and Problems B by the end of **Saturday** of the same week.

**TOPIC: Review of complete Java programs, standard I/O, If-Else**

**Problem B:**

**Problem Description:**

2) Problem B is at MyProgrammingLab # 71070 (chapter 3, Programming Projects)

**Analysis:**

(Describe the problem including input and output in your own words. Type your answer in the following with **BLUE font color**)

|  |
| --- |
| **…**  **INPUT: There will be two inputs provided by the user, a number (0-6), indicating what day of the week it is (Sunday is 0, Monday is 1, ..., and Saturday is 6) and then another a number, indicating how many days after the initial day has passed to determine the future day of the week.**  **OUTPUT: The output will display the current day of the week provided by the user and the future day of the week.** |

**Design:**

(Describe the major steps for solving the problem. Type your answer in the following with **BLUE font color**)

|  |
| --- |
| **The major steps for solving this problem was how to determine the future day of the week will be calculated correctly based on the first number the user inputted. Also, making sure that the user inputted a valid number (0-6) for the first input was also a major step to solving this problem. To make sure the user inputted a valid number, a switch statement was used to output a statement based on the corresponding number when it was a number between 0 and 6, if not the output would print out saying the day number is invalid. To determine the future day of the week, first, both the inputs that the user provides (today’s day number and the number of days elapsed) are added up and then the sum is modulo by 7, which give the future day of the week, and also put through a switch statement to output the day of week’s name.** |

**Coding:** (Copy and Paste Source Code here. Type your answer in the following with **BLUE font color**)

|  |
| --- |
| **import java.util.Scanner;**  **public class FindFutureDates{**  **public static void main(String[] args) {**  **Scanner input= new Scanner(System.in);**  **System.out.print("Enter today's day:");**  **int today= input.nextInt();**  **System.out.print("Enter the number of days elapsed since today:");**  **int days= input.nextInt();**  **//calculations**  **int futureDay= (today+days)%7;**    **switch(today){**  **case 0: System.out.print("Today is Sunday and the future day is ");**  **break;**  **case 1: System.out.print("Today is Monday and the future day is ");**  **break;**  **case 2: System.out.print("Today is Tuesday and the future day is ");**  **break;**  **case 3: System.out.print("Today is Wednesday and the future day is ");**  **break;**  **case 4: System.out.print("Today is Thursday and the future day is ");**  **break;**  **case 5: System.out.print("Today is Friday and the future day is ");**  **break;**  **case 6: System.out.print("Today is Saturday and the future day is ");**  **break;**  **default: System.out.print("Today is an invalid starting day. Today's day must be 0-6. and the future day is ");**  **}**  **switch (futureDay) {**  **case 0: System.out.print("Sunday");**  **break;**  **case 1: System.out.print("Monday");**  **break;**  **case 2: System.out.print("Tuesday");**  **break;**  **case 3: System.out.print("Wednesday");**  **break;**  **case 4: System.out.print("Thursday");**  **break;**  **case 5: System.out.print("Friday");**  **break;**  **default: System.out.print("Saturday");**  **}**  **}**  **}** |

**Testing:** (Describe how you test this program. Type your answer in the following with **BLUE font color**)

|  |
| --- |
| **RUN three times, using the same input as in the sample runs:**  **Test 1:**  **Enter today’s day:0**  **Enter the number of days elapsed since today:17**  **Today is Sunday and the future day is Wednesday**  **Test 2:**  **Enter today’s day:5**  **Enter the number of days elapsed since today:154**  **Today is Friday and the future day is Friday**  **Test 3:**  **Enter today’s day:11**  **Enter the number of days elapsed since today:32**  **Today is an invalid starting day. Today’s day must be 0-6. and the future day is Monday** |