

## Midterm Laboratory Activity 2

Score:

Name: \_\_\_\_\_  
 Subject Code & Schedule: \_\_\_\_\_  
 Course and Year: \_\_\_\_\_

**TITLE:**        **switch Statement**

### LEARNING OBJECTIVES:

At the end of this activity, the students should be able to:

1. Perform conditional statement using **switch-case** statements.
2. Debug programs using **switch-case** statements.
3. Transform programs using **switch-case** to cascading **if-else** statements and vice-versa.
4. Create a complete Java program that simulates these basic operations.

### INSTRUCTIONS:

1. Make sure you have your own individual account.
2. Always keep your account secret to others to avoid unauthorized access to your files.
3. Always save your work and log-off when not using the computer.
4. By now you should have been familiarized using your text editor.
5. By now you should know how to create, save, compile, execute, and debug programs in Java.
6. Use the skills and learning obtained in Prelim Activity 1 to Midterm Activity 1 in order for you to successfully finish the learning objectives of this module.

**DURATION: One to two Meetings**

### HANDS-ON:

1. Log-on using your own individual account. Use your own **username** and **password**.
2. Open your text editor
3. Write your next Java program:
  - 3.1. Write your next program by copying the source code shown below to your text editor.

```
/* Programmed by: <write your name here>
   Program title: Days.java
   Program Date: <write the date today here> */

import java.io.*;
public class Days{
    public static void main(String[] args){
        int day;
        String input = " ";

        BufferedReader in = new BufferedReader(new
            InputStreamReader(System.in));

        System.out.print("Input a number from 1 to 7: ");

        try{
            input = in.readLine();
        }catch(IOException e){
            System.out.println("Error!");
        }

        day = Integer.parseInt(input);

        switch(day){
            case 1 : System.out.println("The day is a Monday!");
                    break;
            case 2: System.out.println("The day is a Tuesday!");
                    break;
            case 3: System.out.println("The day is a Wednesday!");
                    break;
            case 4: System.out.println("That day is a Thursday!");
                    break;
            case 5: System.out.println("The day is a Friday!");
                    break;
            case 6: System.out.println("The day is a Saturday!");
                    break;
            case 7: System.out.println("The day is a Sunday!");
                    break;
        }
        System.out.println("Have a nice day.");
    }
}
```

- 3.2. Save your program as **Days.java** then compile your program until no errors and warnings are reported.
- 3.3. Run your program.

3.4. Simulate and write what will be displayed on the screen.

4. Now let us experiment by altering your code. Answer the following questions:

4.1. Insert the following codes after the **break** in case 7

```
default: System.out.println("Invalid input!!!");
```

4.2. Save, compile, then run your **Days.java** program and input a value for day that is not from 1 to 7. What will be displayed on the screen?

4.3. Now remove the **break** statement in case 2. Then compile and run your program. Input a value for day equal to 2. Write what will be displayed on the screen.

What is the effect of removing the **break** statement?

- 4.4. Reinsert the **break** statement in case 2. Now try moving the following codes:

```
default: System.out.println("Invalid input!!!");
        break;
```

after the **break** statement in case 3.

- 4.5. Compile, run your program. Try inputting a value that is not from 1 to 7.

Did your program behave normally? \_\_\_\_\_

Does it really matter where you place the default? \_\_\_\_\_

- 4.6. Try rearranging the case values in a randomize manner. Compile and run your program.

Did your program behave normally? \_\_\_\_\_

Is there any effect on the program behavior? \_\_\_\_\_

5. Create a new program and save it as **Quarter.java**. Your program should be able to accept an integer value from 1 to 12 representing the months of the year. (1 is for January, 2 is for February, 3 is for March, and so on). Your program should display what quarter does the input month belong to.

Example: If input is from 1 to 3 output should be: 1<sup>st</sup> Quarter  
 If input is from 4 to 6 output should be: 2<sup>nd</sup> Quarter  
 If input is from 7 to 9 output should be: 3<sup>rd</sup> Quarter  
 If input is from 10 to 12 output should be: 4<sup>th</sup> Quarter

- 5.1. Implement the program using **switch-case** statement.  
 5.2. Now do the same program but use cascading **if-else** statement.  
 5.3. From both programs, what do you think is better in terms writability (the ease of writing the codes) and in terms of readability (the ease of understanding the codes)?

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Write your complete `Quarter.java` program implementing **switch-case** here:

Write your complete `Quarter.java` program implementing **if-else** here: