Homework #5 Solution
(Java Programming for Beginners - OnLine)

Note: *If you complete this (specially 5.1 and 5.2) and next homework, you will be much closure to your in designing your midterm project*

5.1 Write a program, which will display the menu with 5 items. It will ask the use to give their choice. It will trap all possible errors and then print the result when correct input is provided before exiting the program.

Example user interface:

```
Welcome to sorting program

        1. Title
        2. Rank
        3. Date
        4. Stars
        5. Likes


Enter your choice between 1 and 5 only: s;fa fa f
You have entered an invalid choice. Try again.
Enter your choice between 1 and 5 only: 9
You have not entered a number between 1 and 5. Try again.
Enter your choice between 1 and 5 only: 3

You entered valid choice 3
Thank you for giving your choice
```

Solution: Check the solution after 5.3

5.2 Write a program that will give the user prompt to enter two float (or double) values. If the values inputted are correct then display the inputted two values. If user enters characters instead of numbers or if they enter invalid numbers then the program will display the error message and ask the user to re-enter the correct values again. It only exits when the correct input is received and displayed.

Example user interface:

```
Welcome to get two floats program


Enter two floats separated by a space: ;a;f asf asf a
You have entered an invalid input. Try again.
Enter two floats separated by a space: 212.5 55.5

You entered two valid floats: 212.5 and 55.5
Thank you for giving two floats
```

Solution: Check the solution after 5.3

5.3 Here is a definition of integer array for 7 temperatures of the week. It is already initialized and there are variables declared for the minimum, maximum, total and average temperatures. These variables are going to be used to get the these values for this weekly temperature

```
int weeklyTemp[] = { 69, 70, 71, 68, 66, 71, 70 };
int i, max = 0, min = 0;
float total = 0, average;
```

Given the above definition, write the code to:

a) Print the daily temperature (assume, first day Sunday), e.g.
The temperature on day 1 was 69:
b) Find and print the minimum and maximum temperature of the week
c) Calculate and print the average temperature of the week

Hint: Use loops (for or while)

Sample Output:

```
The temperature on day 1 was 69:
The temperature on day 2 was 70:
The temperature on day 3 was 71:
The temperature on day 4 was 68:
The temperature on day 5 was 66:
The temperature on day 6 was 71:
The temperature on day 7 was 70:

The Minimum temperature is: 66
The Maximum temperature is: 71
The average temperage for the week is: 69.28571

Thank you for using my homework #5 solution
```

Solution: Includes solution for all above problems

```
import java.util.Scanner;
import java.util.InputMismatchException;

/**
 * This is solution for Homework#5
 *
 * All solutions have been put in one place to minimize number of classes
 *
 * @author bineetsharma
 * @version 1.0
 * @since 02-29-2016
 */

public class HW_5_Solution_Java_OnLine {

	/**
	 * @param args
	 *            not used
	 */
	public static void main(String[] args) {
		// Homework#5.1

		/*
		 * Write a program, which will display the menu with 5 items. It will
		 * ask the use to give their choice. It will trap all possible errors
		 * and then print the result when correct input is provided before
		 * exiting the program.
		 */

		// Scanner that will read the integer
		Scanner readInput = new Scanner(System.in);
		int inputInt;
		System.out
		.println("Welcome to sorting program\n\n\t1. Title\n\t2. Rank\n\t3.
			    Date\n\t4. Stars\n\t5. Likes\n\n ");

		do { // Loop until we have correct input
			System.out.print("Enter your choice between 1 and 5 only: ");
			try {
				inputInt = readInput.nextInt();
				// waits for user input
				if (inputInt >= 1 && inputInt <= 5) {
					break; // Got it, done
				} else {
					System.out
					.println("You have not entered a number between 1
						and 5. Try again.")
					readInput.nextLine(); // discard rest of the input

					continue;
					// continue looping as it is wrong number
				}
			} catch (final InputMismatchException e) {
				System.out
				.println("You have entered an invalid choice. Try again.");
				readInput.nextLine(); // discard non-int input
				continue;
				// keep looping until you found right one
```

```
        }
} while (true);
System.out.println("\nYou entered valid choice " + inputInt);
System.out.println("Thank you for giving your choice");

// Homework#5.2

/*
 * Write a program that will give the user prompt to enter two float (or
 * double) values. If the values inputted are correct then display the
 * inputted two values. If user enters characters instead of numbers or
 * if they enter invalid numbers then the program will display the error
 * message and ask the user to re-enter the correct values again. It
 * only exits when the correct input is received and displayed.
 */

// Scanner that will read the integer
float myFloat1 = 0.0f;
float myFloat2 = 0.0f;
System.out.println("\nWelcome to get two floats program\n\n");
do { // Loop until we have correct input
        System.out.print("Enter two floats separated by a space: ");
        try {
                myFloat1 = readInput.nextFloat();
                // waits for user input
                myFloat2 = readInput.nextFloat();
                // waits for user input
                // if you are here, the floats were good, you
                // are done, breadk out from loop
                break;

        } catch (final InputMismatchException e) {
                System.out
                .println("You have entered an invalid input. Try again.");
                readInput.nextLine();
                // discard non-float input
                continue;
                // keep looping until you found right one
        }
} while (true);
System.out.println("\nYou entered two valid floats: " + myFloat1
                + " and " + myFloat2);
System.out.println("Thank you for giving two floats");

// Homework#5.3

/*
 * Here is a definition of integer array for 7 temperatures of the week.
 * It is already initialized and there are variables declared for the
 * minimum, maximum, total and average temperatures. These variables are
 * going to be used to get the these values for this weekly temperature
 *
 * int weeklyTemp[] = { 69, 70, 71, 68, 66, 71, 70 }; int i, max = 0,
 * min = 0; float total = 0, average;
 *
 * Given the above definition, write the code to: a) Print the daily
 * temperature (assume, first day Sunday), e.g. The temperature on day 1
 * was 69: b) Find and print the minimum and maximum temperature of the
 * week c) Calculate and print the average temperature of the week
 *
```

```
		 * Hint: Use loops (for or while)
		 */

		int weeklyTemp[] = { 69, 70, 71, 68, 66, 71, 70 };
		int i, max = 0, min = 0;

		// print temperatures
		for (i = 0; i < weeklyTemp.length; i++) {
			System.out.printf("\nThe temperature on day %d was %d: ", i + 1,
					weeklyTemp[i]);
		}
		System.out.printf("\n\n");

		// find the max, min temperature
		for (i = 0; i < 7; i++) {
			if (i == 0)
				max = min = weeklyTemp[i];
			if (weeklyTemp[i] > max)
				max = weeklyTemp[i];
			if (weeklyTemp[i] < min)
				min = weeklyTemp[i];
		}
		System.out.printf("The Minimum temperature is: %d\n", min);
		System.out.printf("The Maximum temperature is: %d\n", max);

		// get average
		float total = 0, average;
		for (i = 0; i < 7; i++)
			total += weeklyTemp[i];
		average = total / weeklyTemp.length;
		System.out.println("The average temperage for the week is: " + average);

		System.out.println("\nThank you for using my homework #5 solution");
	} // end of main
} // end of class HW_5_Solution
```