**Module 5 Option 1 Critical Thinking Assignment**

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CSC320: Programming I

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**Source Code**

package module\_5\_option\_1\_critical\_thinking;

/\*

\* Option #1: Get Weekly Temperatures

\* Develop a Java program that will store data in the form of daily average

\* temperatures for one week. Store the day and average temperature in two

\* different arraylists. Your program should prompt the user for the day of

\* the week (Monday through Sunday) and display both the day and temperature

\* for each day. If "week" is entered, the output for your program should

\* provide the temperature for each day and the weekly average. Use the looping

\* and decision constructs in combination with the arrays to complete this

\* assignment.

\*/

import java.util.Scanner;

import java.util.ArrayList;

public class WeeklyTemps {

public static void main(String args[]) {

final int NUM\_ELEMENTS = 7;

Scanner userInput = new Scanner(System.in);

Scanner userDoubleInput = new Scanner(System.in);

ArrayList<String> weekDay = new ArrayList<String>();

ArrayList<Double> averageTemp = new ArrayList<Double>();

String doWhile = "none";

// initialize for the days of the week

weekDay.add("Monday");

weekDay.add("Tuesday");

weekDay.add("Wednesday");

weekDay.add("Thursday");

weekDay.add("Friday");

weekDay.add("Saturday");

weekDay.add("Sunday");

//initialize temps to 0

int i = 0;

for (i = 0; i < NUM\_ELEMENTS; ++i) {

averageTemp.add(i,0.0);

}

do {

System.out.println("Please type the day to enter the average daily temperature.");

System.out.println("Monday, M, Tuesday, Tu, Wednesday, W, Thursday, Th, Friday, F,");

System.out.println("Saturday, Sa, Sunday, Su");

System.out.println("Type 'week' to see the current list of temps and then the average.");

System.out.println("Type 'quit' to end input");

String input = userInput.nextLine();

doWhile = input;

switch (input) {

case "Monday":

case "monday":

case "M":

case "m":

System.out.println("Enter Monday's average temperatue:");

Double mondayInput = userDoubleInput.nextDouble();

averageTemp.add(0,mondayInput);

break;

case "Tuesday":

case "tuesday":

case "Tu":

case "tu":

System.out.println("Enter Tuesday's average temperatue:");

Double tuesdayInput = userDoubleInput.nextDouble();

averageTemp.add(0,tuesdayInput);

break;

case "Wednesday":

case "wednesday":

case "W":

case "w":

System.out.println("Enter Wednesday's average temperatue:");

Double wednesdayInput = userDoubleInput.nextDouble();

averageTemp.add(0,wednesdayInput);

break;

case "Thursday":

case "thursday":

case "Th":

case "th":

System.out.println("Enter Thursday's average temperatue:");

Double thursdayInput = userDoubleInput.nextDouble();

averageTemp.add(0,thursdayInput);

break;

case "Friday":

case "friday":

case "F":

case "f":

System.out.println("Enter Friday's average temperatue:");

Double fridayInput = userDoubleInput.nextDouble();

averageTemp.add(0,fridayInput);

break;

case "Saturday":

case "saturday":

case "Sa":

case "sa":

System.out.println("Enter Saturday's average temperatue:");

Double saturdayInput = userDoubleInput.nextDouble();

averageTemp.add(0,saturdayInput);

break;

case "Sunday":

case "sunday":

case "Su":

case "su":

System.out.println("Enter Sunday's average temperatue:");

Double sundayInput = userDoubleInput.nextDouble();

averageTemp.add(0,sundayInput);

break;

case "week":

case "Week":

int j = 0;

double weeklyAverage = 0;

for (j = 0; j < NUM\_ELEMENTS; ++j) {

weeklyAverage += averageTemp.get(j);

}

weeklyAverage = weeklyAverage/NUM\_ELEMENTS;

System.out.print("Average weekly temp: ");

System.out.printf("%.4f%n", weeklyAverage);

break;

default:

System.out.println("Invalid input.");

}

System.out.print(" Monday: ");

System.out.println(averageTemp.get(0));

System.out.print(" Tuesday: ");

System.out.println(averageTemp.get(1));

System.out.print(" Wednesday: ");

System.out.println(averageTemp.get(2));

System.out.print(" Thursday: ");

System.out.println(averageTemp.get(3));

System.out.print(" Friday: ");

System.out.println(averageTemp.get(4));

System.out.print(" Saturday: ");

System.out.println(averageTemp.get(5));

System.out.print(" Sunday: ");

System.out.println(averageTemp.get(6));

} while (!doWhile.equalsIgnoreCase("quit"));

}

}

**Screenshot**

