//  Program Name: Weekly Temperature Averages

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//  Class: Programming 1 CSC320-2

//  Date: 13 July 2025

// -------------------------------------------

//  Pseudocode:

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// START

// Create list called days

// Create list called temperatures

// Create array weekDays with values: ["Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday", "Sunday"]

// DISPLAY "Please enter the average temperature for each day of the week."

// FOR each day IN weekDays DO

//     SET validInput to false

//     WHILE validInput is false DO

//         PROMPT "Enter average temperature for [day]:"

//         IF user enters a numeric value THEN

//             STORE value in temp

//             ADD day to days list

//             ADD temp to temperatures list

//             SET validInput to true

//         ELSE

//             DISPLAY "Invalid input. Please enter a numeric value."

//             DISCARD invalid input

//         ENDIF

//     ENDWHILE

// ENDFOR

// PROMPT "Type 'week' to see all temperatures and the weekly average:"

// GET input from user

// IF input equals "week" (case-insensitive) THEN

//     DISPLAY "Temperature Report:"

//     SET sum = 0

//     FOR index FROM 0 TO size of days list - 1 DO

//         DISPLAY day at index + ": " + temperature at index + "°"

//         ADD temperature at index to sum

//     ENDFOR

//     CALCULATE average = sum / number of temperatures

//     DISPLAY "Weekly Average Temperature: " + average

// ELSE

//     DISPLAY "Unrecognized input. Program exiting."

// ENDIF

// END

import java.util.ArrayList;

import java.util.Scanner;

public class CriticalThinkingMod5Opt1Fritz {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

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

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

        String[] weekDays = { "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday", "Sunday" };

        System.out.println("Please enter the average temperature for each day of the week.");

        for (String day : weekDays) {

            double temp = 0;

            boolean validInput = false;

            while (!validInput) {

                System.out.print("Enter average temperature for " + day + ": ");

                if (scanner.hasNextDouble()) {

                    temp = scanner.nextDouble();

                    validInput = true;

                } else {

                    System.out.println("Invalid input. Please enter a numeric value.");

                    scanner.next(); // clear invalid input

                }

            }

            days.add(day);

            temperatures.add(temp);

        }

        System.out.print("\nType 'week' to see all temperatures and the weekly average: ");

        String input = scanner.next();

        if (input.equalsIgnoreCase("week")) {

            System.out.println("\nTemperature Report:");

            double sum = 0;

            for (int i = 0; i < days.size(); i++) {

                System.out.println(days.get(i) + ": " + temperatures.get(i) + "°");

                sum += temperatures.get(i);

            }

            double average = sum / temperatures.size();

            System.out.printf("\nWeekly Average Temperature: %.2f°\n", average);

        } else {

            System.out.println("Unrecognized input. Program exiting.");

        }

        scanner.close();

    }

}

Screenshots  
  
Executing the program and testing input validation and making sure average is correct.  
A screenshot of a computer

AI-generated content may be incorrect.

This step initializes proper arrays for days and temperatures and prompts each average temperature from the user for the respective day with input validation from the loop and then adds the days after all inputs are given.   
A screen shot of a computer program

AI-generated content may be incorrect.

This last step then prompts the user for the word “week” if week is not given the program will exit. If “week” is given properly the program will print out the daily temperatures in the correct formatting and print the average as well.  
A screen shot of a computer program

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Github Links

<https://github.com/gfritzcsu/Programming1/tree/master/Mod5CTOpt1>

<https://github.com/gfritzcsu/Programming1/commits/master/Mod5CTOpt1>