**Albany\_weather.java**

package spring\_2020;

import java.io.File;

import java.io.FileNotFoundException;

import java.util.ArrayList;

import java.util.Scanner;

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public class Albany\_weather {

/\*\*

\* **@param** args

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public static void main(String[] args) throws FileNotFoundException {

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

File fileReader = new File("D:\\EclipseJavaWorspace\\spring\_2020\\spring\_2020\\AlbanyWeather.txt");

Scanner inputFile = new Scanner(fileReader);

Scanner keyboard = new Scanner(System.***in***);

int index = 0;

int numOfDate = 0;

double averageHigh = 0;

double averageLow = 0;

double averageTemp = 0;

double averageRainfall = 0;

double averageSnowfall = 0;

String date = "MM/DD";

// enters file data into data arrayList

while (inputFile.hasNext()) {

date = inputFile.nextLine();

data.add(date);

index++;

}

System.***out***.println(

"Enter the month and day of a date in 'M/DD' format to see weather data for that date in Albany, NY");

date = keyboard.next();

// checks if the month value is less than 1 or more than 12

String[] inputList = date.split("/");

if (Integer.*parseInt*(inputList[0]) < 1 || Integer.*parseInt*(inputList[0]) > 12) {

System.***out***.println(

"Incorrect date. Enter the month and day of a date in 'M/DD' format to see weather data for that date in Albany, NY");

date = keyboard.next();

}

// checks if month equals 1,3,5,7,8,10,12 then checks to see if day is more than

// 31

if (Integer.*parseInt*(inputList[0]) == 1 || Integer.*parseInt*(inputList[0]) == 3

|| Integer.*parseInt*(inputList[0]) == 5 || Integer.*parseInt*(inputList[0]) == 7

|| Integer.*parseInt*(inputList[0]) == 8 || Integer.*parseInt*(inputList[0]) == 10

|| Integer.*parseInt*(inputList[0]) == 12) {

if (Integer.*parseInt*(inputList[1]) > 31) {

System.***out***.println(

"Incorrect date. Enter the month and day of a date in 'M/DD' format to see weather data for that date in Albany, NY");

date = keyboard.next();

}

}

// checks if month equals 4,6,9,11 then checks if day is more than 30

if (Integer.*parseInt*(inputList[0]) == 4 || Integer.*parseInt*(inputList[0]) == 6

|| Integer.*parseInt*(inputList[0]) == 9 || Integer.*parseInt*(inputList[0]) == 11) {

if (Integer.*parseInt*(inputList[1]) > 30) {

System.***out***.println(

"Incorrect date. Enter the month and day of a date in 'M/DD' format to see weather data for that date in Albany, NY");

date = keyboard.next();

}

}

// checks if month is 2 then checks if day is more than 29

if (Integer.*parseInt*(inputList[0]) == 2) {

if (Integer.*parseInt*(inputList[1]) > 29) {

System.***out***.println(

"Incorrect date. Enter the month and day of a date in 'M/DD' format to see weather data for that date in Albany, NY");

date = keyboard.next();

}

}

// Searches data arraylist for entered date, if found date is split and

// processed for computation

for (index = 0; index < data.size(); index++) {

if (data.get(index).startsWith(date)) {

String[] itemList = data.get(index).split(",");

averageHigh += Double.*parseDouble*(itemList[1]);

averageLow += Double.*parseDouble*(itemList[2]);

averageTemp += Double.*parseDouble*(itemList[3]);

averageRainfall += Double.*parseDouble*(itemList[4]);

averageSnowfall += Double.*parseDouble*(itemList[5]);

numOfDate++;

}

}

// computes averages

averageHigh /= numOfDate;

averageLow /= numOfDate;

averageTemp /= numOfDate;

averageRainfall /= numOfDate;

averageSnowfall /= numOfDate;

System.***out***.println("Average High Temperature: " + String.*format*("%.1f", averageHigh) + " F");

System.***out***.println("Average Low Temperature: " + String.*format*("%.1f", averageLow) + " F");

System.***out***.println("Average Temperature: " + String.*format*("%.1f", averageTemp) + " F");

System.***out***.println("Average Rainfall: " + String.*format*("%.1f", averageRainfall) + " In.");

System.***out***.println("Average Snowfall: " + String.*format*("%.1f", averageSnowfall) + " In.");

System.***out***.println("Number of Occurrences: " + numOfDate);

keyboard.close();

inputFile.close();

}

}

**Output**

1. Enter the month and day of a date in 'M/DD' format to see weather data for that date in Albany, NY

2/29

Average High Temperature: 36.7 F

Average Low Temperature: 17.4 F

Average Temperature: 27.1 F

Average Rainfall: 0.0 In.

Average Snowfall: 0.3 In.

Number of Occurrences: 18

1. Enter the month and day of a date in 'M/DD' format to see weather data for that date in Albany, NY

4/27

Average High Temperature: 63.5 F

Average Low Temperature: 40.4 F

Average Temperature: 52.0 F

Average Rainfall: 0.1 In.

Average Snowfall: 0.0 In.

Number of Occurrences: 71

1. Enter the month and day of a date in 'M/DD' format to see weather data for that date in Albany, NY

5/10

Average High Temperature: 68.6 F

Average Low Temperature: 45.6 F

Average Temperature: 57.1 F

Average Rainfall: 0.1 In.

Average Snowfall: 0.0 In.

Number of Occurrences: 71