/\*

\* Vic Cuatico

\* 400507885

\*

\* Lab 2

\* Question 1

\*/

#include <iostream>

using namespace std;

struct Data

{

double rain;

double htemp;

double ltemp;

double avgtemp;

};

int main()

{

const int months = 12;

double totalrain = 0,

avgtemp = 0,

highesttemp = -100,

lowesttemp = 140;

int lowindex, highindex;

string monthnames[months] = { "Jan", "Feb", "Mar", "Apr", "May", "Jun", "Jul", "Aug", "Sep", "Oct", "Nov", "Dec" };

Data monthlyData[months];

for (int i = 0; i < months; i++)

{

cout << monthnames[i] << " Data Input." << endl;

do

{

cout << "Enter the total rainfal: ";

cin >> monthlyData[i].rain;

} while (monthlyData[i].rain < 0);

do

{

cout << "Enter the highest temperature: ";

cin >> monthlyData[i].htemp;

cout << "Enter the lowest temperature: ";

cin >> monthlyData[i].ltemp;

if ((monthlyData[i].htemp < -100 or monthlyData[i].htemp > 140) or (monthlyData[i].ltemp < -100 or monthlyData[i].ltemp > 140))

{

cout << "ERROR: Invalid temperature. Please try again" << endl;

}

} while ((monthlyData[i].htemp < -100 or monthlyData[i].htemp > 140) or (monthlyData[i].ltemp < -100 or monthlyData[i].ltemp > 140));

monthlyData[i].avgtemp = (monthlyData[i].htemp + monthlyData[i].ltemp) / 2;

cout << endl;

}

for (int i = 0; i < months; i++)

{

totalrain += monthlyData[i].rain;

avgtemp += monthlyData[i].avgtemp;

if (highesttemp < monthlyData[i].htemp)

{

highesttemp = monthlyData[i].htemp;

highindex = i;

}

if (lowesttemp > monthlyData[i].ltemp)

{

lowesttemp = monthlyData[i].ltemp;

lowindex = i;

}

}

cout << "DATA:" << endl;

cout << "Total rainfall: " << totalrain << endl;

cout << "Average rainfall: " << totalrain / 12 << endl;

cout << "Highest temperature: " << monthnames[highindex] << " " << highesttemp << endl;

cout << "Lowest temperature: " << monthnames[lowindex] << " " << lowesttemp << endl;

cout << "Average temperature: " << avgtemp / 12 << endl;

return 0;

}

A screenshot of a computer

Description automatically generated

/\*

\* Vic Cuatico

\* 400507885

\*

\* Lab 2

\* Question 2

\*/

#include <iostream>

#include <iomanip>

using namespace std;

struct Budget

{

double housing = 500.00,

utilities = 150.00,

household = 65.00,

transportation = 50.00,

food = 250.00,

medical = 30.00,

insurance = 100.00,

entertainment = 150.00,

clothing = 75.00,

misc = 50.00;

};

Budget inputFunc();

void outputFunc(Budget ideal, Budget spent);

int main()

{

Budget ideal, spent;

spent = inputFunc();

outputFunc(ideal, spent);

return 0;

}

Budget inputFunc()

{

Budget spent;

cout << "Enter amount spent on housing: ";

cin >> spent.housing;

cout << "Enter amount spent on utilities: ";

cin >> spent.utilities;

cout << "Enter amount spent on household: ";

cin >> spent.household;

cout << "Enter amount spent on transportation: ";

cin >> spent.transportation;

cout << "Enter amount spent on food: ";

cin >> spent.food;

cout << "Enter amount spent on medical: ";

cin >> spent.medical;

cout << "Enter amount spent on insurance: ";

cin >> spent.insurance;

cout << "Enter amount spent on entertainment: ";

cin >> spent.entertainment;

cout << "Enter amount spent on clothing: ";

cin >> spent.clothing;

cout << "Enter amount spent on miscellaneous: ";

cin >> spent.misc;

return spent;

}

void outputFunc(Budget ideal, Budget spent)

{

cout << fixed << setprecision(2) << endl;

cout << "Monthly Budget Difference: Negative = Under, Positive = Over" << endl;

cout << "HOUSING: " << spent.housing - ideal.housing << endl;

cout << "UTILITIES: " << spent.utilities - ideal.utilities << endl;

cout << "HOUSEHOLD EXPENSES: " << spent.household - ideal.household << endl;

cout << "TRANSPORTATION: " << spent.transportation - ideal.transportation << endl;

cout << "FOOD: " << spent.food - ideal.food << endl;

cout << "MEDICAL: " << spent.medical - ideal.medical << endl;

cout << "INSURANCE: " << spent.insurance - ideal.insurance << endl;

cout << "ENTERTAINMENT: " << spent.entertainment - ideal.entertainment << endl;

cout << "CLOTHING: " << spent.clothing - ideal.clothing << endl;

cout << "MISCELLANEOUS: " << spent.misc - ideal.misc << endl;

cout << "TOTAL: " << spent.housing - ideal.housing + spent.utilities - ideal.utilities + spent.household - ideal.household + spent.transportation - ideal.transportation + spent.food - ideal.food + spent.medical - ideal.medical + spent.insurance - ideal.insurance + spent.entertainment - ideal.entertainment + spent.clothing - ideal.clothing + spent.misc - ideal.misc;

}

A screenshot of a computer

Description automatically generated