Omer Ahmer

Assignment 2

Part 1:

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Description: This program swaps two numbers that were input by the user, and returns them

Author: Omer Ahmer

COMSC 165-5065

Date: 8/29/22

Status: Complete

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#include <iostream>

**using** **namespace** std;

**void** swapping(**float** &number1, **float** &number2);

**int** main() {

**float** n1, n2;

cout << "Enter first number: " << endl;

cin >> n1;

cout << "Enter second number: " << endl;

cin >> n2;

cout << "You entered the numbers " << n1 << " and " << n2 << endl;

swapping(n1, n2);

cout << "After swapping, the first number is " << n1 << " which was the value of the second number." << endl;

cout << "After swapping, the second number is " << n2 << " which was the value of the first number." << endl;

**return** 0;

}

**void** swapping(**float** &number1, **float** &number2) {

**float** temp;

temp = number1;

number1 = number2;

number2 = temp;

}

Text

Description automatically generated

Part 2:

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Description: Calculates speed to two decimal places based on user input for time and distance traveled.

Author: Omer Ahmer

COMSC 165-5065

Date: 8/29/22

Status: Complete

\*/

#include <iostream>

#include <iomanip>

**using** **namespace** std;

**void** calcSpeed(**double** hrs, **double** distance, **double** &mph);

**int** main() {

// declares variables

**double** miles, hours, speed;

// gets user input

cout << "How many miles were traveled?" << endl;

cin >> miles;

cout << "How much time did it take in hours?" << endl;

cin >> hours;

// calculates speed given the user input

calcSpeed(hours, miles, speed);

// outputs the speed calculated by the calcSpeed function to 2 decimal places

cout << "Your speed was " << setprecision(4) << speed << " miles per hour." << endl;

}

// calculates speed by dividing distance by time

**void** calcSpeed(**double** hrs, **double** distance, **double** &mph) {

mph = distance / hrs;

}

Text

Description automatically generated

Part 3:

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Description: Determines letter grade after user inputs a certain amount of grades by taking the average of all of the grades, and then comparing the average against a grading scale

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COMSC 165-5065

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Status: Complete

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#include <iostream>

**using** **namespace** std;

**int** calcAvg(**int** ct, **double** &average);

**int** main() {

// initializes variables

**int** count;

**double** avg;

**char** letter;

// asks user for input

cout << "Enter number of grades:" << endl;

cin >> count;

// uses calcAvg function to find average grade

**int** grade = calcAvg(count, avg);

// set of conditional statements to compare number grade to a letter

**if** (grade >= 90) {

letter = 'A';

}

**else** **if** (grade >= 80) {

letter = 'B';

}

**else** **if** (grade >= 70) {

letter = 'C';

}

**else** **if** (grade >= 60) {

letter = 'D';

}

**else** {

letter = 'F';

}

// outputs final grade

cout << "Your average grade is a " << letter << endl;

**return** 0;

}

// calculates and returns the average grade by dividing the total percentage points by the count of grades inputted

**int** calcAvg(**int** ct, **double** &average) {

**int** total = 0;

**int** percent;

**for** (**int** i = 0; i < ct; i++) {

cout << "Enter grade between 0-100:" << endl;

cin >> percent;

total += percent;

}

average = total/ct;

**return** average;

}

Graphical user interface, text, application

Description automatically generated