**Renee Thomas**

**CIS170C\_Lab03**

**1/26/14**

**Lab # CIS CIS170C-A3**

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// Programming Assignment: LAB3

// Developer: Renee Thomas

// Date Written: 1/23/14

// Purpose: DIVER Scoring Program

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#include<iostream>

#include<iomanip>

#include<string>

using namespace std;

const int TOTAL = 5;

int main(){

// output intro to program

cout << "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout << "Diver Scoring Program"<< endl;

cout << "Instructions: Enter Diver's name, city, judges scores and difficulty."<< endl;

cout << "To add additional divers type Y, when finished, type N"<< endl;

cout << "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<< endl;

string name;

string city;

string sent = "";

int numDivers = 0;

double allAverage = 0;

do

{

// get diver's name and city

cout<< "\n\n\nEnter Diver's Name: ";

getline(cin, name);

cout<< "Enter Diver's City: ";

getline(cin, city);

// intialize Judge scores variables

int num = 0;

int sum = 0;

int high = -1;

int low = 101;

int i=0;

// ask for judges scores in nested loop

// get judges scores

do

{

cout << "Enter the score given by judge " << i + 1 << ": ";

cin >> num;

// make sure user input is in correct range

while(num<0 || num>10)

{

cout<<"Please enter a number between 0 and 10"<<endl;

cout << "Enter the score given by judge " << i + 1 << ": ";

cin >> num;

}

// test if num is the highest

if (num > high)

high = num;

// test if num is the lowest

if (num < low)

low = num;

sum += num;

i++;

}

while (i<TOTAL);

// get level of difficulty

double difLevel;

cout << "\nEnter level of difficulty: ";

cin >> difLevel;

// make sure user input is in correct range

while(difLevel<1 || difLevel>1.67)

{

cout<<"Please enter a number between 1 and 1.67"<<endl;

cout << "Enter level of difficulty: ";

cin >> difLevel;

}

// calculate scores

cout << setprecision(2) << fixed; //Display values 2 decimal places

int hiLo = high + low;

int subTotal = sum - hiLo;

int average = subTotal/3;

double final = average \* difLevel;

// output diver's details

cout<< "\n\nDiver: "<< name << ", " << "City: "<< city<< endl;

cout<< "Overall score was: "<< final<< endl<<endl;

numDivers++;

allAverage += final;

cin.ignore();

cout<< "Type \"y\" to add another diver, or \"n\" to get final totals and end program: ";

getline(cin,sent);

}

while (sent == "y" || sent == "Y");

cout<<"\n\nNumber of divers participating: "<< numDivers<< endl;

cout<< "Average score of all divers: "<< allAverage <<endl;

cin.ignore(2);

}

