Lab 1

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Original

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Problem 1:

Code –

//##################

// firstProgram.cpp

//##################

#include <iostream>

using namespace std;

int main()

{

int i;

cout << “Enter a value for i ”;

cin >> i;

double halfI;

halfI = /\*i/2; (2) i/2.0; (3)\*/(double)i/2;

cout << “Half of ” << i << “ is ” << halfI << end1;

}

Sample Output –

Comments / Answers –

Enter a Value for i 6

Half of 6 is 3

Enter a Value for i 5

Half of 5 is 2.5

Enter a Value for i 37

Half of 37 is 18.5

In alternating between the three different methods of calculating half the users value, I found that the first option only would return whole numbers regardless if it should have a decimal point or not. The second method returned decimal points with its answer, but it provided more then what was needed. The third and last method as seen in the samples above returned the correct answer with a maximum of only one decimal point.

Problem 2:

Code –

//###########################

// secondProgram.cpp

//###########################

#include <iostream>

using namespace std;

int main()

{

int i = 0;

cout << “Enter the Value for i ”;

cin >> i;

int j = 0;

cout << “Enter the Value for j ”;

cin >> j;

int sum;

sum = i + j

cout << “The Sum of ” << i << “ and ” << j << “ is ”

<< sum << endl;

int diff;

diff = i – j;

cout << “The Difference of ” << i << “ and ” << j <<

“ is ” << diff << endl;

Code Continued –

double avg;

avg = sum / 2.0;

cout << “The Average of ” << i << “ and ” << j <<

“ is ” << avg << endl;

int quotient;

quotient = i / j;

cout << “The Quotient of ” << i << “ and ” << j <<

“ is ” << quotient << endl;

int remain;

remain = i % j;

cout << “The Remainder of ” << i << “ and ” << j <<

“ is ” << remain << endl;

}

Sample Output –

Enter the Value for i 3

Enter the Value for j 5

The Sum of 3 and 5 is 8

The Difference of 3 and 5 is -2

The Average of 3 and 5 is 4

The Quotient of 3 and 5 is 0

The Remainder of 3 and 5 is 3

Comments / Answers –

Because of limited space in the text box I had to make the cout for multiple steps go on two separate lines instead of the single line which it appears in the actual program.

Problem 3:

Code –

//##########################

// isMultiple.cpp

//##########################

#include <iostream>

using namespace std;

int main()

{

int i, j;

cout << “Enter in the First Integer ”;

cin >> i;

cout << “Enter in the Second Integer ”;

cin >> j;

if (i % j == 0)

cout << “The Integer ” << i << “ is a Multiple of ” << j << endl;

else

cout << “The Integer ” << i << “ is not a Multiple of ” << j << endl;

}

Sample Output –

Enter in the First Integer 4

Enter in the Second Integer 2

The Integer 4 is a Multiple of 2

Enter in the First Integer 7

Enter in the Second Integer 4

The Integer 7 is not a Multiple of 4

Comments / Answer –

N/A

Problem 4:

Code –

//###########################

// avgMaxMin.cpp

//###########################

#include <iostream>

using namespace std;

int main()

{

int num1, num2, num3;

cout << “Please Enter in the First Value ”;

cin >> num1;

cout << “Please Enter in the Second Value ”;

cin >> num2;

cout << “Please Enter in the Third Value ”;

cin >> num3;

double average;

average = (num1 + num2 + num3) / 3.0;

int maximum, median, minimum;

maximum = num3;

if (maximum < num2)

maximum = num2

if (maximum < num1)

maximum = num1

minimum = num1;

Code Continue –

if (minimum > num2)

minimum = num2;

if (minimum > num3)

minimum = num3;

if (minimum == num1 && maximum == num3)

median = num2;

if (minimum == num1 && maximum == num2)

median = num3;

if (minimum == num2 && maximum == num1)

median = num3;

if (minimum == num2 && maximum == num3)

median = num1;

if (minimum == num3 && maximum == num1)

median = num2;

if (minimum == num3 && maximum == num2)

median = num1;

cout << "The Average is " << average << endl;

cout << "The Maximum is " << maximum << endl;

cout << "The Median is " << median << endl;

}

Sample Output –

Please Enter in the First Value 5

Please Enter in the Second Value 3

Please Enter in the Third Value 9

The Average is 5.66667

The Maximum is 9

The Median is 5

Comments / Answers –

The methodology for finding the maximum and minimum is based off of the example provided on lab instructions.