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Assignment: Homework 4.6, e.g., Lab1C

Homework 4.6

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#include <iostream>

#include <string>

using namespace std;

int main()

{

bool done = false;

string unit1 = "";

string unit2 = "";

double factor1 = 0; // conversion factor from first unit to cm

double factor2 = 0; // conversion factor from cm to second unit

while (!done) //unless done continuously display conversion prompt

{

bool again = false; // true to repeat the same conversion

cout << "From unit (in, cm, m, again, quit): " << endl;

string command;

cin >> command;

if (command == "in") //all conversions from cm to input

{

factor1 = 2.54;

unit1 = command;

}

else if (command == "cm")

{

factor1 = 1.0;

unit1 = command;

}

else if (command == "m")

{

factor1 = 100;

unit1 = command;

}

else if (command == "again") //wont go into next if that will convert to another unit

{

again = true;

}

else if (command == "quit")

{

done = true;

}

else

{

cout << "Sorry, unknown unit." << endl;

}

if (factor1 != 0 && !again && !done) //new unit to convert

{

cout << "To unit: " << endl;

cin >> unit2;

if (unit2 == "in")

{

factor2 = 1.0 / 2.54;

}

else if (unit2 == "m")

{

factor2 = 1.0/100.0;

}

else if (unit2 == "cm")

{

factor2 = 1.0/1.0;

}

else

{

cout << "Sorry, unknown unit." << endl;

}

}

if(factor1 != 0 && !done && factor2 != 0) //when not done and you can convert

{

// Read value to be converted

double value;

cin >> value;

// Convert and print result

cout << value << " " << unit1 << " = "

<< value \* factor1 \* factor2 << " " << unit2 << endl; //print the conversion

}

}

return 0;

}