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ECE 1310.04

Group Project 02

A screenshot of a computer

Description automatically generated

/\* Name: Kelly Williams

\* Date: 11/20/2023

\* Description: group project 2 - bmi calculator with user defined functions

\* Class Section: ECE 1310.04

\*/

using namespace std;

//System Libraries

#include <iostream>

//Function Prototypes

void Greeting(string);

double Validate1(double, int);

double Validate2(double, int, int);

double BMICalc(double, double, double);

void BMIRange(double);

//Global Constants

//Main Function

int main(int argc, char\*\* argv)

{

Greeting("BMI Calculator");

double ft, in, lbs;

cout << "\nEnter your height in feet: ";

cin >> ft;

ft = Validate1(ft, 0);

cout << "\nEnter your height in inches: ";

cin >> in;

in = Validate2(in, 0, 12);

cout << "\nEnter your weight in lbs: ";

cin >> lbs;

lbs = Validate1(lbs, 0);

cout << endl << "Your BMI is " << BMICalc(ft, in, lbs);

BMIRange(BMICalc(ft, in, lbs));

return 0;

}

void Greeting(string proj)

{

cout << "--------Welcome to " << proj << "!--------\n";

return;

}

double Validate1(double x, int a)

{

while (x < a)

{

cout << "Number invalid, please re enter value bigger than " << a << ": ";

cin >> x;

}

return x;

}

double Validate2(double x, int a, int b)

{

while (x < a || x >= b)

{

cout << "Number invalid, please re enter value from " << a << " to " << b << ": ";

cin >> x;

}

return x;

}

double BMICalc(double f, double i, double l)

{

double BMI = 703 \* l / (((f \* 12) + i) \* ((f \* 12) + i));

return BMI;

}

void BMIRange(double BMI)

{

if (BMI < 18.5)

cout << " - Underweight\n";

else if (BMI < 25)

cout << " - Normal weight\n";

else if (BMI < 30)

cout << " - Overweight\n";

else

cout << " - Obesity\n";

return;

}

// Run program: Ctrl + F5 or Debug > Start Without Debugging menu

// Debug program: F5 or Debug > Start Debugging menu