CS 3340 Computer Architecture – Spring 2019 – Mazidi

Homework 5: BMI Calculator

Objective: To gain proficiency in coding MIPS floating-point operations.

Instructions

Write a MIPS program that calculates bmi. Use the following C++ code as pseudocode. The variable **bmi** can be single or double precision.

```
#include <iostream>
#include <string>
using namespace std;

int main()
{
    int height = 0, weight = 0;
    double bmi;
    string name;

    // Prompt user for their data
    cout << "What is your name? ";
    cin >> name;

    cout << "Please enter your height in inches: ";
    cin >> height;
    cout << "Now enter your weight in pounds (round to a whole number): ";
    cin >> weight;

    // Calculate the bmi
    weight *= 703;
    height *= height;
    bmi = static_cast<double>(weight) / height;

    // Output the results
    cout << name << ", your bmi is: " << bmi << endl;

    if (bmi < 18.5)
        cout << "This is considered underweight. \n";
    else if (bmi < 25)
        cout << "This is a normal weight. \n";
    else if (bmi < 30)
        cout << "This is considered overweight. \n";
    else
        cout << "This is considered obese. \n";

    return 0;
}
```

Grading Rubric:
90 points – working code
- 10 points – input height and weight from user using SYSCALLS
- 40 points – calculate bmi
- 10 points – echo bmi to user using SYSCALLS
- 30 points – "if" statements determining weight category and output message to user using SYSCALL

10 points – comments in the code

Upload your .asm file to eLearning