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06/09/19

Assignment 2 Design

**1)**

To change the ‘Original.java’ program I first had to declare the other variables I will need to get the desired output. I figured out I would need 6 and I labeled them with the letter a because these are the results of additions (a1, a2, a3, a4, a5, a6). I then calculated the values for the addition result variables and outputted the results according to the aesthetics requested. I used integers for all of my new variables, this is because any other more precise value would not be needed. I could have done a6 = a1+a2+a3 but a6 = a4 +a5 was shorter.

**2)**

I broke up my BMI calculator program design into 4 parts: Declare variables, user input, calculations, and output. First, I declare all the variables I will need for my program. Then prompt the user to input weight in pounds and height in inches and change the values of the input variables. Next, I converted the input variables to meters and kilograms to then calculate BMI using the equation below. Finally I output the bmi calculation along with the information for the user to evaluate their BMI.

BMI = weight / (height \* height)

I made the input variables for weight and height integers because no one should really input decimals for pounds and inches. I made the converted variables and the ‘actual’ variable double point integers because the multiple decimals in the converting and division of the BMI equation. I change the BMI to a flow variable to simplify the result for the user.