

## APS106 - LAB #3

### MONDAY, JANUARY 27, 2:00 - 4:00

*This lab will test your ability to use various selection constructs (if, else if, switch) in a program that makes decisions based on the value of input. The extension of the source file must be .c, not .cpp (e.g. lab3.c).*

The Body Mass Index (BMI) is a measure of body fat, calculated according to the following equation based on Imperial units ( *lbs* – pounds, *in* – inches ):

$$BMI = \frac{\text{weight (lbs)}}{\text{height} \times \text{height (in}^2\text{)}} \times 703$$

For example, a person who weighs 220 lbs and is 6 feet 3 inches tall (there are 12 inches in a foot) has a BMI of:

$$BMI = \frac{220}{75 \times 75} \times 703 = 27.5$$

Write a program that asks a user his/her weight (lbs) and height (ft and in), calculates a value of the BMI, and then categorizes the weight according to the following:

< 18.5	underweight
18.5 – 25.0	normal weight
25.0 – 30.0	overweight
> 30.0	obese

For example, input and output might look like this:

```
Weight (lbs) : 220
Height (ft/in) : 6 3

Your BMI score is 27.5 - you're overweight!
```

or like this:

```
Weight (lbs) : -45
Height (ft/in) : 6 3

I'm sorry; this input is invalid.
```