Computer Science I Bill Griffith PhD
HW2 12 pts **Due 11:59 PM Thursday, September 12**

Part A: Leap Year -- 4 Points

Write a Python program that takes in an integer that represents a year and determines whether the year is a leap year. A leap year is a multiple of 4. If it is a multiple of 100, it must also be a multiple of 400. **No user created functions.**

Sample Outputs:

```
Please enter a year: 2008
This is a leap year

Please enter a year: 2011
This is not a leap year

Please enter a year: 2100
This is not a leap year
```

Part B: Body Mass Index (BMI) 8 points

The Body Mass Index (BMI) often is used by scientists and physicians to determine whether a person is underweight or overweight. The BMI is calculated as follows:

Step 1: Divide your body weight in pounds by 2.205
Step 2: Divide your total height in inches by 39.37
Step 3: Square the answer from Step 2.
Step 4: Divide the answer from Step 1 by the answer in Step 3.

A healthy BMI is between 18.5 and 25. The BMI is said to work equally well for both men and women.

Create a Python program that has three inputs. Two inputs will give the feet and inches of the height. For example: 5, 10 if the person is 5 feet 10 inches. The third input will give the person's weight in pounds.

After accepting the inputs and computing the height in inches, the program will call a function (call it **computeBMI**) and feed it two parameters (height in inches and weight). The function will then compute the BMI and **return** the BMI to the main section of the program.

After receiving the BMI, the program will then determine the category of the BMI and print out the results.

I suggest that you have a different assignment statement for each step in the calculations. It's best to strive to create the clearest and most understandable programs rather than the shortest programs. But you will not be graded on style (at least in **this** assignment), but rather on whether the program works. It would, however, be an excellent idea to work on style in anticipation od assignment 3.

As noted above, switch from pounds and feet.inches to kg and meters.

Use the formula: **weight (kg) / [height (m)]^2**

See for example the BMI calculator at

http://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm

Check all paths. Output should look as follows:

This program computers your Body Mass Index (BMI)

Enter your height in feet and inches
Enter feet: 5
Enter inches: 11
Enter weight in pounds: 190
Your height is 71 inches

Your Body Mass Index is 26.5)
Overweight

This program computers your Body Mass Index (BMI)

Enter your height in feet and inches
Enter feet: 5
Enter inches: 2
Enter weight in pounds: 120
Your height is 62 inches

Your Body Mass Index is 21.9)
Normal Weight

This program computers your Body Mass Index (BMI)

Enter your height in feet and inches
Enter feet: 6
Enter inches: 10
Enter weight in pounds: 175
Your height is 82 inches

Your Body Mass Index is 18.3)
Underweight