PURPOSE

To become more familiar with using loops and flow control with compound Boolean expressions. You will be using compound expression with if- and while statements.

To help you focus on this material, this assignment consists of only a single program.

TASK

Using **bmi1.py** as a starting point create **bmi_while.py** that differs from the original in the following ways:

1. You have to use a while-loop to allow the user to run up to 3 BMI calculations. If she decides to quit before by entering the letter '**q**' (upper or lower case) for 'quit' she should be allowed to quit the program. In all other cases (i.e., any other input) let her continue with the next BMI calculation. However, after 3 calculations the program should terminate.

    Tips: In your while loop you will need two conditions your Boolean expression. One will be similar to the "not stop" approach discussed in class (this will allow the user to leave the loop early), the other condition will be a counter variable that will make the loop terminate when a certain count is reached. This is similar to a loop you would write to simply count from 1 to 3 for instance. You'll be combining the two test conditions in one Boolean expression in order to meet the requirements stated above. Question: will you use AND or OR as Boolean operator to combine these two conditions?

2. If a weight < 0 or weight > 500 lbs is entered by the user a specific helpful error message is displayed and the program bypasses all other code (i.e., no computation or result display) and goes back to the 'Program computes your BMI'

3. If a height < 0 is entered another specific error message is displayed and the program bypasses all other code and goes back to the 'Program computes your BMI'

4. Based on the bmi value you compute, using the table provided in **bmi1.py** display if the person is underweight, normal weight etc.. (*hint*: sent this bmi value to a function to determine the correct message to display and have it display it there)

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[1] The number in () corresponds to the assignment number on the Franklin University web page and should be used when you submit your assignment via dropbox for proper credit.

5. As part of your implementation use methods and limit code duplication where possible. I.e., you will have a method named main, and in it you will have your main loop with the if-statements needed for error checking. Try not to fill up your main loop with lots of code, try to call methods instead if possible.

You may find the **days_lived_while2.py** helpful.

Please be sure you carefully review any previous comments I have made to your programs <u>and use them</u> to create more functional and/or readable code. Also, closely read these assignment specifications. [27 pts]

DELIVERABLES

A single source file: **bmi_while.py**

```
# bmi1.py
#
# program computes BMI
#
# reference 1:
#
#   http://www.whathealth.com/bmi/formula.html
#
# reference 2:
#
#   http://www.nhlbisupport.com/bmi/
#
#   BMI Categories:
#
#    * Underweight = <18.5
#    * Normal weight = 18.5-24.9
#    * Overweight = 25-29.9
#    * Obesity = BMI of 30 or greater
#
# written by e.bonakdarian    oct 2009
#

print 'Program computes your BMI'

weight = float(input('Enter weight in pounds: '))
height = float(input('Enter height in inches: '))

bmi = (weight / (height * height)) * 703.0

print 'Your BMI is %.2f' % bmi


raw_input('\n<enter> to exit.')
```