Fortran and Python Homework 4

The BMI (body mass index) correlates well with percentage of body fat. In metric units, the formula is given by:

$$BMI = \frac{mass(kg)}{height^2(m^2)}$$

Write a program to compute BMI. The program should contain at least the following procedures:

1. Get input from the user. Ask the user whether s/he wants to enter metric or Imperial units.   The Imperial units should be pounds and feet/inches (you may ask the user to enter feet and inches separately, you do not need to try to parse a response like 5'6"). The metric units most commonly used are kg and cm. Check for insane values (assume that nobody is below 0 in height or above 10 feet – I'm not sure whether the upper limits of weight have been tested but the maximum ever recorded was 1400 lbs)
2. Convert pounds to kilograms
3. Convert feet/inches to meters
4. Convert cm to m
5. Compute BMI
6. Determine where the user falls in the table supplied below and return that information.
7. Print the value of the BMI along with an appropriate and respectful message (no "hey fatty fatty", please).

The categories for BMI are as follows:

Severely underweight	BMI < 16.0
Underweight	16 <= BMI < 18.5
Normal	18.5 <= BMI < 25
Overweight	25 <= BMI < 30
Obese Class I	30 <= BMI < 35
Obese Class II	35 <= BMI <40
Obese Class III	BMI > 40

Loop until the user enters some indicator that she/he is finished entering values. Fortran students: use at least one subroutine, more if appropriate.   (However, anything that returns a single result and does nothing else should be a function.) Python students: remember that you can return lists from a function.

Print the output for the following cases:

Imperial, 6 feet, 2 inches, 150 lbs
Metric, 132 cm, 45 kg
Metric, 157 cm, 89 kg
Imperial, 5 feet, 11 inches, 205 lbs
Imperial, 5 feet, 7 inches, 205 lbs
Metric, 185 cm, 600 kg