Project 1

Due October 3, 2012

This project will cover materials in chapters 1 through 5. We may not have covered the subject yet, but we will before the project is due. It is important that you document your code. It is also important that you make the display to the user professional looking. Include prompts that the user will understand. Include the measurement in the output. The following are the specifications. You may add anything you want to make the output more readable. Be sure to create your pseudocode and place it in the header of the program. Be sure to include all documentation that is relevant.

Write a Python program that asks the user to enter a distance in meters. The program will then present the following menu of selections:

1. Convert to kilometers
2. Convert to inches
3. Convert to feet
4. Convert to miles
5. Quit the program.

The program will convert the distance entered in meters to kilometers, inches, feet or miles, depending the users’ selection.

* Write a function which accepts the number of meters as an argument. The function should display the argument converted to kilometers using the following formula:
  + - kilometers = meters \* 0.001
* Write a function which accepts the number of meters as an argument. The function should display the argument converted to inches. Convert meters to inches using the following formula:
  + - Inches = meters \* 39.37
* Write a function which accepts the number of meters as an argument. The function should display the argument converted to feet using. Convert the meters to feet using the following formula:
  + - Feet = meters \* 3.281
* Write a function which accepts the number of meters as an argument. The function should display the argument converted to miles using the following formula:
  + - Miles = meters \* 0.000621
* Write a function that displays the menu of selections. This function should not accept any arguments.
* The program should continue to display the menu until the user enters 5 to quit the program.
* The program should not accept negative numbers for the distance in meters.
* If the user selects an invalid choice from the menu, the program should display an error message.

Here is an example of executing the code. Bold indicates what the user enters. :

Enter a distance in meters: **500 [enter]**

1. Convert to kilometers
2. Convert to inches
3. Convert to feet
4. Convert to miles
5. Quit the program

Enter your choice: **1 [enter]**

500 meters is 0.5 kilometers.

1. Convert to kilometers
2. Convert to inches
3. Convert to feet
4. Convert to miles
5. Quit the program

Enter your choice: **3[enter]**

500 meters is 1640.5 feet

1. Convert to kilometers
2. Convert to inches
3. Convert to feet
4. Convert to miles
5. Quit the program

Enter your choice: **5 [enter]**

Thank you for using this program.

Bye.