

Project 1: Unit Conversion

Objectives

1. Apply the concepts of control structures.
2. Understand the design, implementation, and use of programs based on functions.
3. Gain experience implementing applications using layers of increasing complexity.

Project Overview

In this project, you will develop a small program to perform unit conversions. The program will present the following menu to the user:

Welcome to the unit conversion program. Please, choose an option:

1. Miles to kilometers
2. Kilometers to miles
3. Pounds to kilograms
4. Kilograms to pounds
5. Celsius to Fahrenheit
6. Fahrenheit to Celsius
7. Miles/hour to kilometers/hour
8. Kilometers/hour to miles/hour
9. Exit

Enter option:

When the person picks an option the unit conversion starts. If the person picks option 9, then the program ends with the message: “Thanks for using the unit conversion program!”. If the user enters an invalid menu option, an error message will be displayed.

Upon choosing an option for conversion, the program will present a prompt to the user similar to the following:

Enter the *<unit>* to be converted:

The user will then enter a number representing the unit, and the program will read the number, convert the unit appropriately, and then present the answer. If the user enters an invalid number, an error message will be displayed. The following sequence illustrates the process:

Welcome to the unit conversion program. Please, choose an option:

1. Miles to kilometers
2. Kilometers to miles
3. Pounds to kilograms
4. Kilograms to pounds
5. Celsius to Fahrenheit
6. Fahrenheit to Celsius
7. Miles/hour to kilometers/hour
8. Kilometers/hour to miles/hour
9. Exit

Enter option: 1

Enter the miles to be converted: 100

100.0 miles are equivalent to 160.93 kilometers

Submission Details

A starter file named `project_1.py` has been provided. Download and modify `project_1.py` and add all the missing functions and code to complete the project. You will submit a single file, through Moodle, whose name must have the following format: `LastnameFirstname_Section_p1`. For example, a student named Juan Perez from section 016 would submit the following file: `PerezJuan_016_p1.py` (use only one name and one last name).

PROJECT DUE DATE: October 6, 2019 11:59PM (Moodle won't accept it afterwards)

NOTE: Projects that do not execute correctly on the Python interpreter will get a score of 0.