Syntax Practice Problem #13

Objectives

1. Use definitions to modularize programming
2. Practice use of if statements in Python syntax
3. Obtaining input from standard input

Due by the end of class.

Problem

1. Write a Python program that uses a definition to compute the energy emitted, according to the Stefan-Boltzmann equation from an input temperature and use the MetPy module for units.

$$E = \sigma T^4$$

Where σ is the Stefan-Boltzmann constant (5.67 x 10^{-8} W m^{-2} K^{-4}) and T is the temperature in Kelvin. The script should use standard input to gather the temperature in Celsius. Output should be the energy emitted in W m^{-2} with units expressed as part of the calculation.

Starter script is available in `/archive/courses/met330/syntax13.py`

Notes:

- Only one value should result from the input
- Double check to make sure you have the correct output and conversion for temperature.
- Make sure documentation (e.g., comment block and comments throughout code) is present in your source code
- Make output informative so that anyone running your program understand what is being produced without seeing the assignment.
- Name the program **syntax13_<username>.py** and place a copy in `/archive/courses/met330/syntax_problems`