Syntax Problem #13

Objectives

1. Practice writing and running Python code.
2. Use definitions to modularize code.
3. Use standard input.

Problem

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

$$E = \sigma T^4$$

$$\sigma = 5.67 \times 10^{-8}\ W\ m^{-2}\ K^{-4}$$

$$T = \text{temperature in Kelvin}$$

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. Only one value should result from the calculation.

Starter script is available at */syntax_problems/data/syntax13.py*.

Notes:

- 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 understands what is being produced without seeing the assignment.
- Name the program **`syntax13_<username>.py`** and place a copy in `/share/share/syntax_problems/`.