Unit Converter

design a program that converts a value between units in the supplied file

W2O Engineering

May 28, 2020

1 Introduction

Unit converters are handy applications that take as input some value with original units and output that value converted to a new unit. For example, we might want to know what 2 feet is when converted to inches; or how many liters are in 1 gallon. In this exercise, a known set of conversions is supplied in the form of an attached json file (conversions.json). You should design a program that, where possible, seamlessly converts values between units according to the conversions supplied.

2 Conversion Data

The **conversions.json** file attached lists a number of possible unit conversions. Each conversion is listed as follows:

[given_unit, converted_unit, multiplier]

E.g

[foot, inch, 12]

This is to say that, units of **foot** should be multiplied by **12** to convert to units of **inch**

2.1 Example File Contents

The attached conversions.json file will have the following basic structure:

```
[
    ["foot", "inch", 12],
    ["meter", "centimeter", 100]
]
```

3 Program Requirements

Only units described in the conversions.json file as either given units or converted units are valid program input units. For example, given the conversions.json file contents shown above, the only valid original or desired input values are as follows:

- foot
- inch
- meter
- centimeter

3.1 Inputs

The program should take 3 input arguments:

1. The original unit
2. The desired unit
3. The value in original units to convert to desired units

3.2 Outputs

The program should output the correct value of desired units requested.

3.3 Interface

The program should expose some usable interface. It is perfectly acceptable to make this a command line interface, a local development http server, or any sane protocol for accessing the program. Usage should be documented, including installation instructions. As an example, a command line interface to this program might operate as follows:

Entering the following into a terminal:

```
$ convert 2 foot inch
```

Results in the following:

```
24
```