GA General Assembly

MANIPULATING VARIABLES IN PYTHON

Key Terms and Definitions

» **Keywords:** Specific reserved words that have special meaning to Python.

» **Function:** A piece of Python code that performs a series of steps or actions to produce a result.

» **Module:** A set of Python code scripts that work together in a common subject area. For example, the "math" module includes several mathematical operations. These must be imported into a script before they can be used.

» **Containers:** A data type that can hold more than one object. These are:

- *Lists:* Enclosed by square brackets ([]). Mutable (changeable) collections of objects with specific orders. The objects in a list can be any combination of data types and do not have to be unique (elements can be repeated).
- *Tuples:* Enclosed by parentheses (()). Immutable versions of lists. Unlike lists, their elements cannot be removed, added to, or changed.
- *Set:* Enclosed by curly braces ({}). A collection of unordered, unique elements. They can be compared to other sets using the intersection and union methods.
- *Dictionaries:* Also enclosed by curly braces, but elements are pairs joined by a colon ({:}). These are sets of key-value pairs. Every element has a key (of any immutable data type), which must be unique, and a value (which can be of any data type and does not need to be unique — multiple keys can have the same value). Dictionaries, like sets, are unordered — their index is the keys, not a list of numbers.

» **Literal:** A text representation of a particular data type.

Guiding Questions

1. Why does a dictionary use curly braces like a set? Are they related?
2. Is there any usage difference for programmers between mutable and immutable data types?
3. What is the difference between a *method* and a *function*?

Additional Resources

1. DataCamp:

   » [Intro to Python for Data Science](#)
       - Section 2: "Python Lists"

   » [Intermediate Python for Data Science](#)
       - Section 2, "Dictionaries & Pandas." Specifically, see parts 1 and 2 on "Dictionaries."

2. [Codecademy](#)

   » Python, Section 5: "Lists and Dictionaries"

3. [All Built-In Functions](#)
4. [All Python Keywords](#)
5. [GA Containers Demo](#)