Basic Data Types

Unit Overview

- In this unit we are going to get a basic understanding of data types, built in functions, and methods. We will learn how to:
  - Use variables effectively.
  - Use comments effectively.
  - Create variables of different data types (strings, integers, and floats) and manipulate them.
  - Change or cast variable data types from one form to another in order to perform specific actions.
  - Call functions and methods and pass appropriate arguments. When appropriate, we will grab the return value to store in a variable.
  - Print information to the screen.
  - Get user input to make dynamic programs.
  - Import the math library for higher level mathematical operations.

Data Types

- Strings: A series of characters
- Integers: Whole numbers
- Floats: Decimal numbers

Control Structure

- None

Operators

Assignment Operators

- = Assignment
- += Compound Assignment
- -= Compound Assignment
- + Concatenation (strings)

Algebraic Operators

- + Addition (ints and floats)
- - Subtraction
- * Multiplication
- / Division
- ** Exponentiation

Built In Functions

- print()
- type()
- str()
- int()
- float()
- input()
- round()
- https://docs.python.org/3/library/functions.html

Methods

Strings:

- .upper()
- .lower()
- .title()
- .strip()
- .count()
- https://docs.python.org/3/library/stdtypes.html#string-methods

External Libraries

- math

Challenge Problems

- Letter Counter App
- Miles Per Hour Conversion App
- Temperature Conversion App
- Right Triangle Solver App
- Multiplication/Exponentiation Table Program