Conditional Tests

if/elif/else chains

Overview

- In this part we will intoduce the second construct to control the flow of our programs. The if/elif/else chain. We will learn how to:
  - Define Boolean values
  - Use various comparison, membership and logical operators
  - Build simple if/else statements using conditional tests
  - Build more complex if/elif/else chains
  - Nest if/elif/else chains for more dynamic programs
  - Interpret blank lists or strings as boolean values
  - Use logical operators to create more robust conditional tests
  - Import the random module to randomly generate values for our programs

Data Types

- Strings: A collection of characters
- Integers: Whole numbers
- Float: Decimal numbers
- Lists: A mutable collection
- Tuples: An immutable collection
- Ranges: A sequence of integers
- Booleans: A True or False Value

Control Structures

- If
- For loops
- if Statements
- if/else Statements
- if/elif/else Statements
- break
- pass
- continue

Operators

Assignment Operators

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

Algebraic Operators

- + Addition
- - Subtraction
- * Multiplication
- / Division
- ** Exponentiation
- // Absolute Division

Logical Operators

Logical Operators

- and
- or
- not

Membership Operators

- in
- not in

Comparison Operators

- == Equal to
- != Not Equal to
- < Less Than
- > Greater Than
- <= Less Than or Equal
- >= Greater Than or Equal

Built in Functions

- print()
- type()
- str()
- int()
- float()
- input()
- round()
- sorted()
- len()
- range()
- list()
- min()
- max()
- sum()
- zip()
- bin()
- hex()

Methods

Strings

- .upper()
- .lower()
- .title()
- .strip()
- .count()
- .join()
- .startswith()

Lists

- .append()
- .insert()
- .pop()
- .remove()
- .sort()
- .reverse()
- .copy()

External Libraries

- math
- datetime
- cmath
- random

Challenges (Assignments)

- Shipping Accounts Program
- Coin Toss App
- Voter Registration App
- Guess My Number App
- Rock Paper Scissors App