

CS 150 Fall 2022 – Quiz 4 “Cheat Sheet”

Input/Output

- Reading input from the user
input(message): Displays message to the user and returns what the user typed as a string
- Reading from a file
with open(filename, "r") as file:
 for line in file:
 # do something with line (a string)
- Writing to a file
open(filename, "w"): Write to file (overwrite any existing content)
open(filename, "a"): Append to the end of existing contents
file.write(item): Writes item to file (e.g. string, number) w/o trailing newline
- Reading from a URLs (webpages)
import urllib.request
with urllib.request.urlopen(some_url) as web_page:
 for line in web_page:
 line = line.decode('utf-8', 'ignore')
 # do something with line (now a string)
- Command-line arguments
import sys
sys.argv: is a list containing the command-line arguments (the first element is always the program name)

Sequences

- Range
range(stop): Equivalent `range(0, stop, 1)`
range(start, stop[, step]): Create sequence from inclusive **start** to exclusive **end** by **step**
- Slicing
seq[start[:stop[:step]]]: Slice **seq** from inclusive **start** to exclusive **stop** by **step**

Strings

- The following functions are built-in and answer questions about strings
len(string): Returns the number of characters in the string
int(string), float(string): Converts a string to an int or float
- String object methods
upper(), lower(), capitalize(): Returns a new upper or lower-cased, or 1st letter upper-cased string
find(some_string): Returns the first index that **some_string** occurs at in the string or -1 if not found
find(some_string, index): Same as above, but starts searching at index
replace(old, new): Return a copy of the string with all occurrences of old substituted with new
startswith(prefix): Returns **True** if the string starts with prefix, False otherwise
endswith(suffix): Returns **True** if the string ends with suffix, False otherwise
strip(): Returns a copy of the string with leading and trailing whitespace removed
split(): Return a list of the words in the string using whitespace as the delimiter
- String operators
string1 + string2: Returns a new string that is the concatenation of string1 and string2
string * int: Returns a new string that is string repeated int times
substr in string: Returns True if substr is a substring of string, False otherwise

Lists

- Creating new lists
[] creates empty list
[object1, object2, ...] creates list containing objects