

## CS 150 Fall 2021 – Quiz 5 “Cheat Sheet”

- 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 with a trailing newline)**
- 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[:end[:step]]]**: Slice **seq** from inclusive **start** to exclusive **end** 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 1<sup>st</sup> letter upper-cased string  
**find(some\_string)**: Returns the first index that **some\_string** occurs at in the string or -1 if not found  
**index(some\_string)**: Returns the first index that **some\_string** occurs at in the string  
**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  
**list(iterable)** creates a list from any iterable object (e.g., range, set, string)
- The following functions are built-in and answer questions about lists  
**len(list)**: Returns the number of elements in list  
**sum(list), min(list), max(list)**: Returns the sum, min, or max of elements in list  
**sorted(list)**: Returns a new copy of the list in sorted order
- List object methods  
**append(x)**: Adds x to the end of the list  
**extend(other\_list)**: Adds all elements of other\_list to the end of the list  
**index(item)**: Returns the index of the first occurrence of item in the list or error otherwise  
**insert(index, x)**: Insert x at index in the list  
**pop()**: Removes the item at the end of the list and returns it  
**pop(index)**: Removes item at index from the list and returns it  
**reverse()**: Reverses the elements in the list

**sort():** sorts the elements in the list

- List operators

**list1 + list2:** Returns a new list that contains the elements of list1 followed by the elements of list2

**list \* int:** Returns a new list that contains the items in list repeated int times

**item in list:** Returns True if item is an element of list, False otherwise