

CS106A Summer 2025 Final Reference Sheet

Common Python Functions

prompts the user and returns the user-supplied text

```
user_input = input("prompt")
```

prints the text to the console

```
print("Hello, World!")
```

data-type conversion functions

```
# int(val), float(val), str(val)
```

Common List Functions

adds a value to the end of a list

```
lst.append(value)
```

removes and returns value at index, or at end if no index given

```
lst.pop(index)
```

checks if a value is in a list

```
if val in lst:
```

```
    # body of if statement
```

access a value at a given index

```
val = lst[index]
```

Common String Functions

concatenates two strings together, and returns a new string

```
s = "CS" + "106A"
```

accesses the character at a given index

```
char = s[index]
```

checks if a substring is within a string

```
if "Hello" in s:
```

```
    # body of if statement
```

tokenizes the string into its space-separated components

```
tokens = s.split()
```

Common File Functions

```
# opens a file in reading mode  
with open(filename, "r") as f:
```

```
# reads a single line of the file, then loops over rest of file  
with open(filename) as f:
```

```
    first_line = f.readline() # stores first line of file in first_line  
    for line in f: # loops over remaining lines of file  
        # Your awesome code here
```

Common Dictionary Functions

```
# Loops over keys in dictionary  
for key in dict:  
    print(dict[key]) # Prints each value
```

```
# Checks if key is in dictionary  
if key in dict:
```

```
# Initializes/updates a key to map to a value  
dict[key] = value
```

Common Class Functions

```
# Constructor syntax  
def __init__(self):  
    self.instance_variable = 0
```

```
# General method syntax  
def my_method(self, parameter1, parameter2):
```

Common Sorting Functions

```
# Returns a sorted list (ascending order)  
my_sorted_list = sorted(my_list) # Specify reverse=True for descending
```

```
# Sorts based on custom sort function, use lambda elem : expression  
# to leverage a one-line function  
my_sorted_list = sorted(my_list, key=func)
```