

## INTRODUCTION TO PYTHON

### DAY FOUR CHEATSHEET: FILE I/O AND MODULES

#### FILE INPUT/OUTPUT

```
# Read a file using the .read() method
file_handle = open("file.txt", "r")
file_string = file_handle.read() # Read file as a single string
file_handle.close()

# Read a file using the .readlines() method
file_handle = open("file.txt", "r")
file_line_list = file_handle.readlines() # Read file lines into a list
file_handle.close()

# Read a file using the .readlines() method and with control-flow
with open("file.txt", "r") as file_handle:
    file_line_list = file_handle.readlines()

# Write to a file
file_handle = open("file.txt", "w")
file_handle.write("This sentence is now in the file.\n")
file_handle.write("And so is this sentence, on the next line!")
file_handle.close()

# Write to a file using with control-flow
with open("file.txt", "w") as file_handle:
    file_handle.write("This sentence is now in the file.\n")
    file_handle.write("And so is this sentence, on the next line!")
```

#### MODULES

To import a module, use either of the following commands (example uses module `os`)

```
import os          # use as os.<function>, e.g. os.listdir()
from os import *   # use as <function>, e.g. listdir()
```

## THE SYS MODULE

Module	Command	Description	Example
sys	sys.path	Contains a list of directories in the python path	sys.path.append("another/path/to/access/")
sys	sys.argv	Contains a list of command-line arguments (all strings!)	save_me = sys.argv[1]
sys	sys.exit()	Immediately exit out of a script	sys.exit()

Module	Command	UNIX equivalent	Example
os	os.listdir	ls	files = os.listdir("directory/with/files")
os	os.remove	rm	os.remove("file.txt")
os	os.mkdir	mkdir	os.mkdir("new_directory")
os	os.chdir	cd	os.chdir("go/to/this/directory/")
shutil	shutil.copy	cp	shutil.copy("old_file", "new_file")
shutil	shutil.move	mv	shutil.move("old_file", "new_file")

## THE OS AND shutil MODULES