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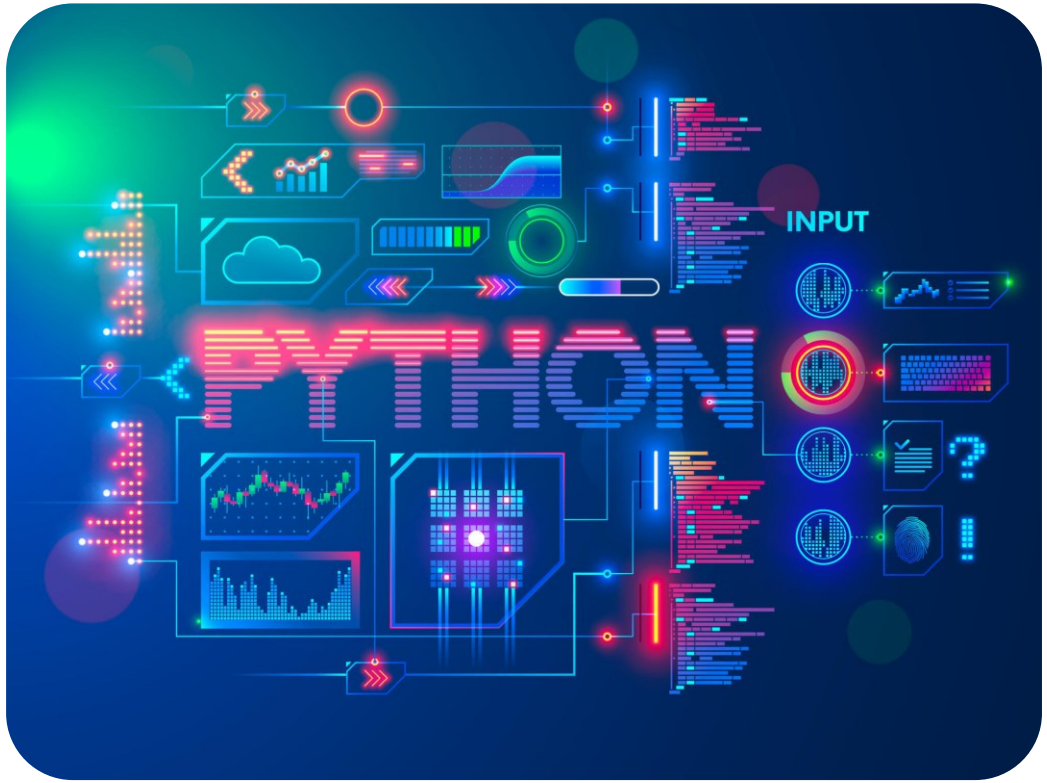

WIIT 7740: Scripting with Python

Week 7: Files

OS Operations

Computer Operating System Terminology

- Files, Folders (directories)
- Current Working Directory
- Environment
- Read-Only/Write-Only
- User/Administrator
- File Handle
- File Path (sequence of file locations needed to travel to a particular file/folder)

Python allows us to interact with files in other folders in a computer **besides** the current directory.

Folder / Directory Methods

```
import os
```

`os.getcwd()` - Identifying the current working directory

`os.abspath(file_name)` - Finding an absolute path

`os.mkdir(directory)` - Creating a directory

`os.chdir(directory)` - Changing the current working directory

`os.rmdir(directory)` - Deleting a directory (if the directory is empty)

```
import shutil
```

`shutil.rmtree(directory)` - Deleting a directory and its sub-directories

File Handling

Built-In Functions

`open(file, mode='r', … )`

Open a file and return the corresponding file object

`close()`

Closes an open file object

```
import os
os.rename(old_path, new_path)
```

moves/rename names a file located at old_path to the new_path

`os.remove(file_name)`

Deletes a file at the specified path

File Handling Attributes and Methods

`closed`

Checks if a file handle is closed

`mode`

Checks the current mode of file

`name`

Checks the file name

`readable()`

Check if a file is readable

`writeable()`

Check if a file is writeable

`read()`

Read content and set the mode of your file handler

Partial List of File Modes

- `'r'` default mode, Read-Only. Places pointer at the beginning of the file.
- `'r+'` opens file for both Reading and Writing
- `'w'` Creates a new file if one doesn't exist.
- `'w+'` opens file for both Reading and Writing.
  - Overwrites the file, if it exists, otherwise it makes a new one
- `'a'` opens file for Appending. Places pointer at the end of the file.
- `'a+'` opens file for both Reading and Appending.
  - If the file doesn't exist, it creates a new one for Reading and Writing.
- `'x'` opens file exclusively for creation. Fails if one already exists.

Reading from Files

`read()`

Read content and return it as a single String

`readlines()`

Read content and return it as a list of Strings (each element is a line)

`readline()`

Read the line located where the pointer is currently. Moves point to the next line

Writing to Files

`write(`*`string`*`)`

Write the specified String to the current file at the location of the pointer

`writelines`*`(list_of_strings)`*

Writes the specified collection of Strings to the current file at the location of the pointer

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Practice Coding:
Class Activity