University of Tripoli
Faculty of Information Technology

Department of Software Engineering

مواضيع مختارة ITSE305
Python Programming
S2025

Lecture (5): File Handling

Python File Open

- Python has several functions for creating, reading, updating, and deleting files.
- The key function for working with files in Python is the open() function
- The open() function takes two parameters; *filename*, and *mode*.
- There are four different methods (modes) for opening a file:
  - "r" - Read - Default value. Opens a file for reading, error if the file does not exist
  - "a" - Append - Opens a file for appending, creates the file if it does not exist
  - "w" - Write - Opens a file for writing, creates the file if it does not exist
  - "x" - Create - Creates the specified file, returns an error if the file exists
- It can be specified if the file should be handled as binary or text mode
  - "t" - Text - Default value. Text mode
  - "b" - Binary - Binary mode (e.g. images)

```
f = open("demofile.txt")
```
OR
```
f = open("demofile.txt", "rt")
```

2   by: Fatima Ben Lashihar

Python File Open

▸ The open() function returns a file object, which has a read() method for reading the content of the file: `print(f.read())`

▸ By default the read() method returns the whole text, but you can also specify how many characters you want to return: `print(f.read(5))`

▸ You can return one line by using the readline() method: `print(f.readline())`

▸ Note: If the file is located in a different location, you will have to specify the file path

▸ 3

Python Close Files

▸ It is a good practice to always close the file when you are done with it. In some cases, due to buffering, changes made to a file may not show until you close the file. `f.close()`

▸ 4

Python File Write

▸ To write to an existing file, you must add a parameter to the open() function:
  ▸ "a" - Append - will append to the end of the file
  ▸ "w" - Write - will overwrite any existing content
▸ Example: Open the file "demofile2.txt" and append content to the file:

```python
f = open("demofile2.txt", "a")
f.write("Now the file has more content!")
f.close()

#open and read the file after the appending:
f = open("demofile2.txt", "r")
print(f.read())
```

```
Hello! Welcome to demofile2.txt
This file is for testing purposes.
Good Luck!Now the file has more content!
```

▸

Python File Write

▸ Example: Open the file "demofile3.txt" and overwrite the content:

```python
f = open("demofile3.txt", "w")
f.write("Woops! I have deleted the content!")
f.close()

#open and read the file after the overwriting:
f = open("demofile3.txt", "r")
print(f.read())
```

```
Woops! I have deleted the content!
```

Create a New File

▸ To create a new file in Python, use the open() method, with one of the following parameters:

  ▸ "x" - Create - will create a file, returns an error if the file exists
  ▸ "a" - Append - will create a file if the specified file does not exists
  ▸ "w" - Write - will create a file if the specified file does not exists

by: Fatima Ben Lashihar

Python Delete File

▸ To delete a file, you must import the OS module, and run its os.remove() function:

```python
import os
os.remove("demofile.txt")
```

▸ To avoid getting an error, you might want to check if the file exists before you try to delete it:

```python
import os
if os.path.exists("demofile.txt"):
  os.remove("demofile.txt")
else:
  print("The file does not exist")
```

by: Fatima Ben Lashihar

Python Delete Folder

▸ To delete an entire folder, use the os.rmdir() method, you can only remove *empty* folders.

```python
import os
os.rmdir("myfolder")
```

▸ 9

The END

▸ 10