Chapter 5: Advanced Python Concepts

Lesson 2: File Handling 🗄

🎯 Objective:

By the end of this lesson, you'll be able to:

- Open, read, write, and close files in Python
- Understand file modes ("r", "w", "a", "x")
- Use the with statement for file operations

📑 Part 1: What is File Handling?

File handling allows Python to **read from** and **write to** files stored on your computer.

📂 Part 2: Opening a File

Python uses the built-in open() function:

```
file = open("example.txt", "r")
```

- "example.txt" – name of the file
- "r" – mode (in this case, read mode)

⚒ File Modes:

Mode	Meaning	Description
r	Read	Default. Opens file for reading
w	Write	Overwrites file or creates it
a	Append	Adds data to end of file

📖 Part 3: Reading a File

```
file = open("example.txt", "r")
content = file.read()
print(content)
file.close()
```

> Always close the file when done using `file.close()`.

✦ Shortcut: Using `with` Statement

Automatically closes the file after usage:

```python
with open("example.txt", "r") as file:
    content = file.read()
    print(content)
```

📝 Part 4: Writing to a File

```python
with open("newfile.txt", "w") as file:
    file.write("Hello, world!")
```

> If the file exists, `write()` will erase its contents.

➕ Part 5: Appending to a File

```python
with open("newfile.txt", "a") as file:
    file.write("\nThis is a new line.")
```

💡 Exercises

1. Create a file named `mydata.txt` and write your name in it.
2. Read and print the contents of `mydata.txt`.
3. Append your age to `mydata.txt`.