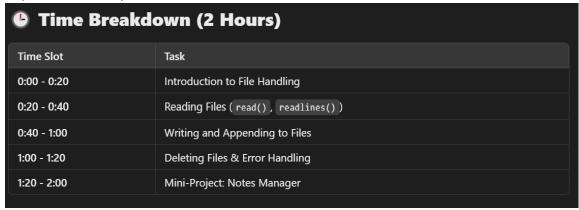
Day 9 of 6 weeks Python course:



1 What is File Handling? ✓ Why Use Files? Store persistent data (e.g., user data, logs, notes). Retrieve and update data without losing it when the program exits. ✓ Opening a File (open())

```
In [ ]: file = open("sample.txt", "r") # "r" means read mode
content = file.read()
print(content)
file.close()
```

Modes in open():	
Mode	Meaning
r	Read (default)
W	Write (Overwrites if file exists)
а	Append (Adds new content)
x	Create a new file (Fails if exists)

2 Reading from Files (read(), readlines()) Reading Entire File (read())

```
In [ ]: file = open("sample.txt", "r")
    print(file.read()) # Reads the entire file content
    file.close()
```

Reading Line by Line (readline())

```
In [ ]: file = open("sample.txt", "r")
    print(file.readline()) # Reads first line
    file.close()
```

Reading All Lines into a List (readlines())

```
In []: file = open("sample.txt", "r")
    lines = file.readlines() # Stores lines as a list
    for line in lines:
        print(line.strip()) # strip() removes extra spaces/newlines
    file.close()
```

Using with open() for Auto-Closing

```
In [ ]: with open("sample.txt", "r") as file:
    content = file.read()
```

```
print(content)
```

3 Writing and Appending to Files ✓ Writing to a File (w mode - Overwrites the file)

```
In [ ]: with open("sample.txt", "w") as file:
    file.write("Hello, Deepak!\n")
    file.write("Python is awesome!\n")
```

P Note: This overwrites existing content! ✓ Appending to a File (a mode - Adds new content)

```
In [ ]: with open("sample.txt", "a") as file:
    file.write("Let's learn file handling!\n")
```

4 Deleting Files & Error Handling ✓ Deleting a File

```
In [ ]: import os
    os.remove("sample.txt") # Deletes the file
```

Checking if a File Exists Before Deleting

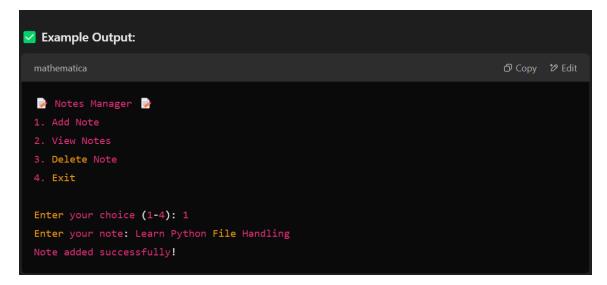
✓ Handling File Errors

Ø Mini-Project: Notes Manager (Save & Retrieve Notes) ★ Project Goal 1.Save notes in a file. 2.Allow users to view, add, delete notes. 3.Use file handling for persistence. ☐ Code Implementation

```
In [ ]: import os
        # File name for storing notes
        filename = "notes.txt"
        # Function to add a note
        def add note():
            note = input("Enter your note: ")
            with open(filename, "a") as file:
                 file.write(note + "\n")
            print("Note added successfully!\n")
        # Function to view all notes
        def view_notes():
            if os.path.exists(filename):
                 with open(filename, "r") as file:
                    notes = file.readlines()
                    if notes:
                         print("\n ★ Your Notes ★")
                         for i, note in enumerate(notes, start=1):
                             print(f"{i}. {note.strip()}")
                    else:
                         print("No notes found.\n")
            else:
```

```
print("No notes file found.\n")
# Function to delete a note
def delete_note():
    view_notes()
    if os.path.exists(filename):
        with open(filename, "r") as file:
            notes = file.readlines()
        if notes:
            try:
                note_no = int(input("Enter the note number to delete: ")) - 1
                if 0 <= note_no < len(notes):</pre>
                    deleted = notes.pop(note_no)
                    with open(filename, "w") as file:
                        file.writelines(notes)
                    print(f"Deleted note: {deleted.strip()}\n")
                else:
                    print("Invalid note number!\n")
            except ValueError:
                print("Invalid input! Please enter a number.\n")
        else:
            print("No notes to delete.\n")
# Main Menu
while True:
    print("\n > Notes Manager > ")
    print("1. Add Note")
    print("2. View Notes")
    print("3. Delete Note")
    print("4. Exit")
    choice = input("Enter your choice (1-4): ")
    if choice == "1":
        add_note()
    elif choice == "2":
        view notes()
    elif choice == "3":
        delete_note()
    elif choice == "4":
        print("Exiting Notes Manager. Goodbye!")
    else:
        print("Invalid choice! Please enter a valid option.\n")
```

```
Step-by-Step Explanation
 Step 1: Store Notes in a File
filename = "notes.txt"
• The file stores all notes.
 Step 2: Adding a Note
                                                                               with open(filename, "a") as file:
    file.write(note + "\n")
• Appends notes without overwriting existing ones.
📌 Step 3: Viewing Notes
 with open(filename, "r") as file:
     notes = file.readlines()
• Reads all notes and prints them.
📌 Step 4: Deleting a Note
 note_no = int(input("Enter the note number to delete: ")) - 1
 notes.pop(note_no)
 with open(filename, "w") as file:
     file.writelines(notes)
• Removes a selected note and updates the file.
```



```
In []: ★ Summary of Day 9

✓ Learned File Handling (open(), read(), write())

✓ Practiced Error Handling & Deleting Files

✓ Completed a Mini-Project: Notes Manager
```