Day 31: File Handling - Advanced

Working with CSV, JSON, XML Files

- CSV

```python
import csv
with open("data.csv", newline="") as f:
    reader = csv.DictReader(f)
    for row in reader:
        print(row["name"])
```

- JSON

```python
import json
with open("config.json") as f:
    data = json.load(f)
    print(data["version"])
```

- XML

```python
import xml.etree.ElementTree as ET
tree = ET.parse("sample.xml")
root = tree.getroot()
```

Path Handling with `os` and `pathlib`

- Difference between absolute/relative paths
- Using `os.path` vs `pathlib.Path`

```
# os.path
import os
path = os.path.join("folder", "file.txt")
```

```
# pathlib.Path
from pathlib import Path
file = Path("myfolder") / "file.txt"
print(file.exists())
# Code becomes cross-platform and clean
```

Directory and File Management

- os.mkdir() , os.remove() , os.rename()

- shutil.copy() , shutil.rmtree()

```
import os
os.mkdir("backup")
os.rename("old.txt", "new.txt")
os.remove("new.txt")

shutil.copy("file.txt", "backup/file.txt")
shutil.rmtree("my_folder")
```

Robust Exception Handling for File Operations

```
try:
    with open("missing.txt", "r") as f:
        data = f.read()
```

```
except FileNotFoundError:
    print("File not found.")
```

```
import time
for i in range(3):
    try:
        with open("data.txt") as f:
            break
    except FileNotFoundError:
        time.sleep(2)
```

📝 <u>**Test**</u>