Python File Handling - Notes

# 🔹 Purpose

Python provides built-in functions and methods to work with files — reading, writing, updating, and closing files safely and efficiently.

# 📂 Opening Files

* open(filename, mode) – Opens a file. Modes: 'r' (read), 'w' (write), 'a' (append), 'x' (create), 'b' (binary), '+' (read/write)
* with open(...) as f – Context manager for automatic closing of files

# 📖 Reading Files

* f.read(size=-1) – Reads entire file or up to `size` bytes
* f.readline() – Reads one line at a time
* f.readlines() – Reads all lines into a list

# ✍️ Writing Files

* f.write(string) – Writes a string to the file
* f.writelines(lines) – Writes a list of strings to the file

# 📍 File Pointer Operations

* f.tell() – Returns current file position
* f.seek(offset, whence=0) – Moves file pointer to a position

# ✅ Closing Files

* f.close() – Closes the file (not needed with `with open`)

# 📌 File Modes Summary

* 'r' – Read (default)
* 'w' – Write (overwrite if exists)
* 'a' – Append (create if not exists)
* 'x' – Create (fail if exists)
* 'b' – Binary mode
* 't' – Text mode (default)
* '+' – Read and write

# 🚀 Common Use Cases

* Read a config or log file
* Write logs or reports
* Update data in a CSV or text file
* Create new data files for export