# File Handling in Python

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### What is File Handling?

File handling is an essential part of any programming language, allowing programs to read from and write to files stored on the system. Python provides built-in functions to create, read, write, and manipulate files efficiently.

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## Different Modes to Open a File Python provides several modes to open a file :

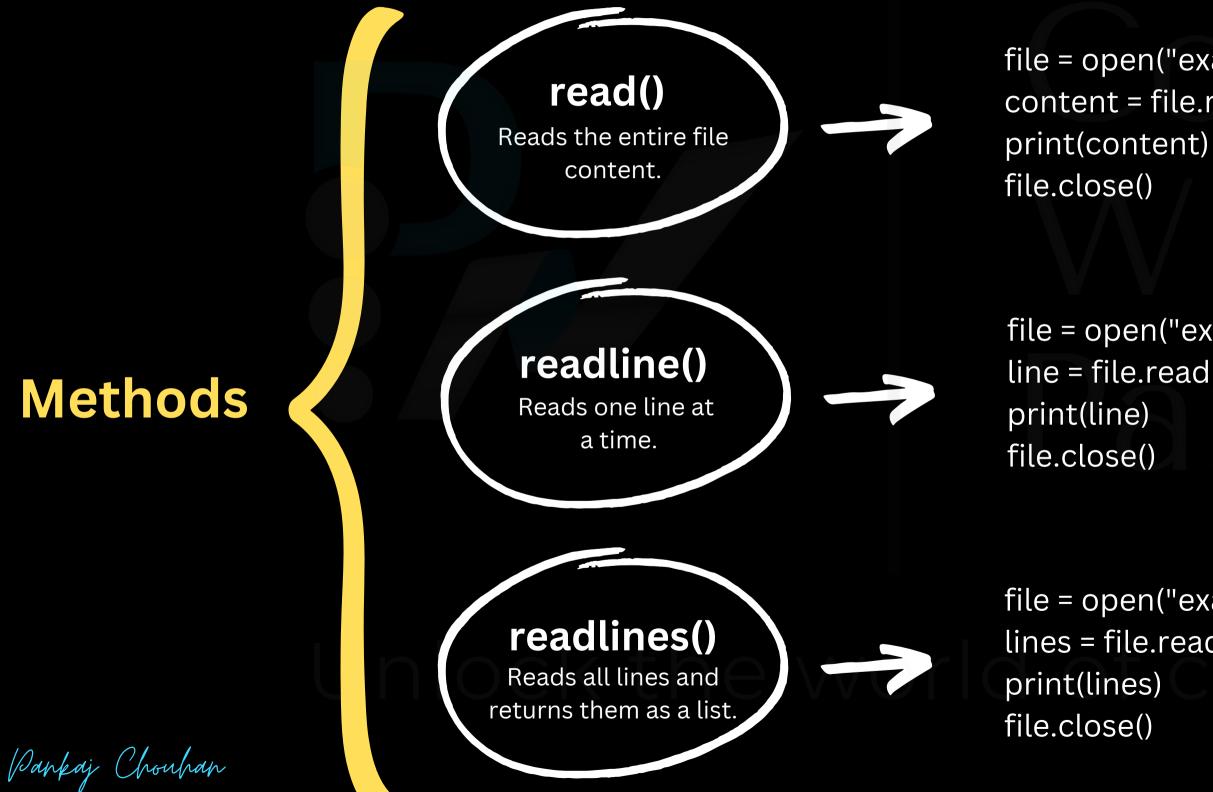
Mode	Description
r	Read mode (default). Opens the file for reading. If the fi
W	Write mode. Creates a new file if it doesn't exist, or over
a	Append mode. Adds data to the end of an existing file.
r+	Read and write mode. The file must exist, otherwise, an
W+	Write and read mode. Overwrites the file if it exists.
a+	Append and read mode. Adds new content while preser
rb, wb, ab	Same as r, w, a, but for binary files.

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File doesn't exist, it throws an error. Erwrites the existing file.

rving existing content.

### **Reading Files in Python**



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

file = open("example.txt", "r")
line = file.readline()
print(line)
file.close()

file = open("example.txt", "r")
lines = file.readlines()
print(lines)
file.close()

### Writing to Files in Python



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file = open("example.txt", "w")
file.write("Hello, World!\n")
file.close()

file = open("example.txt", "w")
file.writelines(["Line 1\n", "Line 2\n"])
file.close()

### Alternatively, use a with statement to automatically close the file:

with open("example.txt", "r") as file: print(file.read()) # No need to explicitly close the file

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### Working with File Pointers: seek() and tell()



file = open("example.txt", "r") print(file.tell()) # Shows position file.read(5) print(file.tell()) # Updated position file.close()

file = open("example.txt", "r") file.seek(5) # Moves pointer to the 5th byte print(file.read()) file.close()

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### Pickling & Unpickling (Storing Python Objects)

Pickling is a way to serialize (save) Python objects, and unpickling retrieves them.

### **Pickling (Saving Object)**

### import pickle

data = {"name": "Alice", "age": 25}
with open("data.pkl", "wb") as file:
 pickle.dump(data, file)

### Unpickling (Loading Object)

with open("data.pkl", "rb") as file: data = pickle.load(file) print(data)

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