File Handling

FILE OPERATIONS

1. **OPEN( )** the file.
2. **READ ( )** from the file or **WRITE( )** to the file.
3. **CLOSE( )** the file.

Steps to READING from or WRITING to Files

- **TIP:** When a file is opened, don't forget to close it.
- **GOOD PRACTICE**: Immediately after opening a file, write the close statement.

f = **open**("filename", "access mode")

.....

f.close()

Access Mode – specifies what you will do with the file after you open it.

Access mode		Action
r	read	If file exists, **opens the file for reading**. If file doesn't exist, error message displayed.
w	write	Creates file if it doesn't exist. Otherwise, **erases contents of existing file** and pointer is positioned at the beginning of the file.
a	append	Creates file if it doesn't exist. Otherwise, **pointer positions to end of file** and **data is appended** to the existing file content.
r+		Open for reading and writing.
w+		Open for reading and writing.
a+		Open for reading and writing.

Create a demofile.txt

Hello! Welcome to demofile.txt

This file is for testing purposes

Good Luck!

Line 1
Line 2
Line 3

Each line contains a EOL **(end of line)** character

Text File and Python File

demofile.txt

Hello! Welcome to demofile.txt
This file is for testing purposes
Good Luck!

fileHandling.py

READING from a File

open( ) a file so data can be read from the file

f = open(“demofile.txt”, “r”)

IF FILE DOES NOT exist:

1) Error Message

IF FILE EXISTS:

1) File is **open** ONLY to read data from.

2) Cannot write or modify the file in any way.

read() - function to **read the entire contents** from the file

```
f = open("demofile.txt", "r")
print(f.read( ))
```

Open the file for reading.

OUTPUT:

Outputs the contents of the **entire file**.

read(#) - function to read characters from a file

```
f = open("demofile.txt", "r")
print(f.read(5))
```

Open the file for reading.

read(5) reads **first 5 characters** of the file.

OUTPUT:

Hello

readline() - function to read one line from a file

```
f = open("demofile.txt", "r")
print(f.readline())
```

Open the file for reading.

OUTPUT:

Hello! Welcome to demofile.txt

readline() - function to read two lines from a file

```
f = open("demofile.txt", "r")
print(f.readline())
print(f.readline())
```

Open the file for reading.

OUTPUT:

Hello! Welcome to demofile.txt
This file is for testing purposes.

Use a For Loop to read data from a file

```
f = open("demofile.txt", "r")
```

Open the file for reading.

```
for line in f:
    print(line)
```

Use a **For Loop** to loop through the file line by line.

OUTPUT:

```
Hello! Welcome to demofile.txt
This file is for testing purposes.
Good Luck!
```

WRITING to a File

open( ) a file so data can be written to the file

f = open(“demofile.txt”, “w”)

IF FILE DOES NOT EXIST:

1) demofile.txt file will be **created**.

IF FILE EXISTS:

1) demofile.txt file is **opened**
2) any information in the existing file will be **erased**.

open( ) a file so data can be appended to the file

f = open(“demofile.txt”, “a”)

IF FILE DOES NOT EXIST:

1) demofile.txt file will be **created**.

IF FILE EXISTS:

1) demofile.txt file is **opened**
2) any **new** information will be **added** to the end of the existing file.

write() - data appended to the end file

```
f = open("demofile.txt","a")
f.write("\n Now the file has one more line")
```

write() - write data using newline character \n

```
f = open("demofile.txt","a")
f.write('Hi there!\n")
f.write('How are you?')
```

OUTPUT:

Hi there!

How are you?

write() - data written to file

f = open(“demofile.txt”,”w”)

f.write(“New data”)

File is opened.

CAUTION: Existing data is erased.

New data is written to the file.

CLOSE the File

close( ) the File after use

f.close()