File Handling in Python

File handling refers to the process of performing operations on a file such as creating, opening, reading, writing and closing it, through a programming interface. It involves managing the data flow between the program and the file system on the storage device, ensuring that data is handled safely and efficiently.

Open the file and read its contents

with open('sanjivani.txt', 'r') as file:

File Modes in Python

When opening a file, we must specify the mode we want to which specifies what we want to do with the file. Here's a table of the different modes available:

Mode	Description	Behavior
r	Read-only mode.	Opens the file for reading. File must exist; otherwise, it raises an error.
rb	Read-only in binary mode.	Opens the file for reading binary data. File must exist; otherwise, it raises an error.
r+	Read and write mode.	Opens the file for both reading and writing. File must exist; otherwise, it raises an error.
rb+	Read and write in binary mode.	Opens the file for both reading and writing binary data. File must exist; otherwise, it raises an error.
w	Write mode.	Opens the file for writing. Creates a new file or truncates the existing file.
wb	Write in binary mode.	Opens the file for writing binary data. Creates a new file or truncates the existing file.
w+	Write and read mode.	Opens the file for both writing and reading. Creates a new file or truncates the existing file.

Mode	Description	Behavior
wb+	Write and read in binary mode.	Opens the file for both writing and reading binary data. Creates a new file or truncates the existing file.
a	Append mode.	Opens the file for appending data. Creates a new file if it doesn't exist.
ab	Append in binary mode.	Opens the file for appending binary data. Creates a new file if it doesn't exist.
a+	Append and read mode.	Opens the file for appending and reading. Creates a new file if it doesn't exist.
ab+	Append and read in binary mode.	Opens the file for appending and reading binary data. Creates a new file if it doesn't exist.
x	Exclusive creation mode.	Creates a new file. Raises an error if the file already exists.
xb	Exclusive creation in binary mode.	Creates a new binary file. Raises an error if the file already exists.
x+	Exclusive creation with read and write mode.	Creates a new file for reading and writing. Raises an error if the file exists.
xb+	Exclusive creation with read and write in binary mode.	Creates a new binary file for reading and writing. Raises an error if the file exists.

Reading a File

Reading a file can be achieved by **file.read()** which reads the entire content of the file. After reading the file we can close the file using file.close() which closes the file after reading it, which is necessary to free up system resources.
Example: Reading a File in Read Mode (r)
file = open("sanjivani.txt", "r")
content = file.read()
print(content)
file.close()