- Introduction File Handling
- File Operations

File

File is the collection of data.

Helps us to store the data permanently. Which can be retrieved for future use.

Types of Files:

Text, CSV, Binary.

- **Files are named locations on disk to store related information. They are used to permanently store data in a non-volatile memory (e.g. hard disk).**

File Operation in Python

Hence, in Python, a file operation takes place in the following order:

1. **Open a file**
2. **Read or write (perform operation)**
3. **Close the file**

Text file

- Stores information in ASCII or unicode characters.
- Extension for text files is .txt
- Default mode of file

Open a file

1. Using open() function
2. Using with statement

Example

```
F = open(“file.txt”, ‘r’)

F = open(“C:\\User\\file2.txt”, ‘r’)
```

Using with statement

Syntax:

```
With open(filename, fileMode) as FileObject:
        FileObject.write(“.....”)
```

File Access Modes

r → Opens file for read only . This is the Default Mode.

r+ → Reading and Write also

w → write to a file

w+ → Reading and Write also.

w+, a+ r+

r	It opens the file to read-only mode. The file pointer exists at the beginning. The file is by default open in this mode if no access mode is passed.
rb	It opens the file to read-only in binary format. The file pointer exists at the beginning of the file.
r+	It opens the file to read and write both. The file pointer exists at the beginning of the file.

w	It opens the file to write only. It overwrites the file if previously exists or creates a new one if no file exists with the same name. The file pointer exists at the beginning of the file.
wb	It opens the file to write only in binary format. It overwrites the file if it exists previously or creates a new one if no file exists. The file pointer exists at the beginning of the file.
w+	It opens the file to write and read both. It is different from r+ in the sense that it overwrites the previous file if one exists whereas r+ doesn't overwrite the previously written file. It creates a new file if no file exists. The file pointer exists at the beginning of the file.

a : Append

It opens the file in the append mode. The file pointer exists at the end of the previously written file if exists any. It creates a new file if no file exists with the same name.

a+

It opens a file to append and read both. The file pointer remains at the end of the file if a file exists. It creates a new file if no file exists with the same name.

Example

```
#open the file.txt in read mode. causes error if no such file exists.
fileptr = open("file2.txt","r");

#stores all the data of the file into the variable content
content = fileptr.readlines()

#prints the content of the file
print(content)

#closes the opened file
fileptr.close()
```

Seek and tell()

- Seek()
- tell()

tell():

- In python programming, within file handling concept `tell()` function is used to get the actual position of file object.
- By file object we mean a cursor. And it's cursor, who decides from where data has to be read or written in a file.

seek():

- In python programming, within file handling concept `seek()` function is used to shift/change the position of file object to required position.
- By file object we mean a cursor. And it's cursor, who decides from where data has to be read or write in a file.