

File Handling

Opening a File

Opening a file is the fundamental step in every file handling task.

This makes sense because, in any file explorer, we first open before performing any reading or writing operations to it.

Files in Python can be opened with a built-in **open() function**. Ideally, it takes two string arguments:

1. The file path including the file name and the extension we want to open, is to be passed as a string
2. The mode in which we want to open the file, to be passed as a string.

Thus, the syntax for opening a file would look like this:

Open("file path ", 'mode')

1. In 'r' mode, the file opens in the **read mode**. By default, if we don't specify the mode argument, it will be treated as read or 'r' mode.

For Example, To open our file **myfile.txt** in 'r' mode:

`open("myfile.txt")` or `open("myfile.txt", "r")`

```
f=open('myfile.txt','r')
print(f.read())
```

2. In the 'w' mode, the file opens in write mode.

It removes existing content, if present, in the file.

If the specified file doesn't exist, it creates one with the specified name.

For Example, To open our file **myfile.txt** in 'w' mode:

```
file = 'myfile.txt'
myfile=open(file,'w')
myfile.write('creative design multimeida institute is the #No1 institute in surat')
myfile.close()
```

3. In the 'a' mode, the file opens in append mode.

It adds content to an existing file (or append at the end of the file).

If the specified file doesn't exist, it creates one with the specified name.

It does not remove the existing content from the file. For Example, To open our file **myfile.txt** in 'a' mode:

```
file = 'myfile.txt'
myfile=open(file,'a')
myfile.write('creative design multimeida institute is the #No1 institute in surat')
myfile.close()
```

4. In the 'r+' mode, the file opens in the read & write mode.

It does not remove existing content, if present, in the file and does not create a file if not present in the directory.

For Example, To open our file **myfile.txt** in 'r+' mode:

```
file = 'myfile.txt'
myfile=open(file,'r+')
print(myfile.read())
myfile.write('india')
```

5. In the 'w+' mode, open the file in the read & write mode & remove existing content.

If the file doesn't exist, it creates a new one.

It does not remove existing content & if a file doesn't exist, it creates a new one.

For Example, To open our file **myfile.txt** in 'w+' mode:

```
file = 'myfile.txt'
myfile=open(file,'w+')
myfile.write('gautam patel')
```

6. In the 'a+' mode, the file opens in the read & append mode.

It does not remove existing content & If the file doesn't exist, it creates a new one.

For Example, To open our file myfile.txt in a+ mode:

SN	Access mode	Description
1	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.
3	r+	It opens the file to read and write both. The file pointer exists at the beginning of the file.
5	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.
7	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.
9	a	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.
11	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.