Parul® University

Python Programming

PIET, CSE Dept.

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DIGITAL LEARNING CONTENT

CHAPTER-7

File Handling

File

- Used to store data
- File extension specifies the type of data

Figure 7.1 : file Operation

Image source : Google

Open a File

- **File open method opens a file with a given name and returns the reference of the file**
- **Syntax**

```
file_handle = open(<file_name> , <file_mode>)
```

Mode of file to define access privileges

```
>>> file_object = open('Hello.txt' , 'r')
```

Name of file

File Modes

Mode	Description
'r'	Reading the content of file. (default mode)
'w'	Writing to file. If file does not exist, it will create otherwise truncate it
'x'	Exclusive creation of file. The operation will fail if it is already exists.
'a'	Appending at the end of the file without truncating it. Creates a new file if it does not exist.
'b'	Open in binary mode. (rb,wb,ab)
'+'	Updating the file (reading and writing – r+,w+,a+, rb+,wb+,ab+)

File Object Attributes

Attribute	Description
file.closed	To check file is closed or not. Returns true if file is closed, false otherwise.
file.mode	To know access mode of file.
file.name	To know name of the file.

```
>>> file_handle = open(r'C:\Users\Nita Jadav\Desktop\notes_CPT.txt' , 'r')
>>> file_handle.name
'C:\\Users\\Nita Jadav\\Desktop\\notes_CPT.txt'
>>> file_handle.mode
False
```

Close a File

- **Close file to stop operating on file**
- **Syntax**

```
file_object.close()
```

```
>>> file_handle.close()
>>> file_handle.closed
True
```

Reading the Content : read() method

demoFile.txt

```
Hello! Welcome to Parul University's CEP Course
This is a File Reading Example.
Hope you will enjoy File Handling Classes.
```

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

Reading the Content from different location

Read it as
Raw string

```
>>> file_object = open(r'C:\Users\Nita Jadav\Desktop\notes_CPT.txt' , 'r')
>>> data = file_object.read()
>>> print(data)
ALT+Shift+D =Date
ALT_Shift+T = Time
in gujrati ruu=rupiya no ru
to add drop cap= insert->Text->Drop cap
```

Text file name
with path

Read file data and
store it in data

Read only the few lines from a file

```
# Read Only Parts of the File

fp = open("demofile.txt", "r")
print(fp.read(2)) # reads only 1st 2 lines
```

Read Lines

readLine():- returns one line

```
# Read Only 1 line of the File

fp = open("file.txt", "r")
print(fp.readline())


# Read 2 lines of the File

fp = open("file.txt", "r")
print(fp.readline())
print(fp.readline())
```

Read Lines

Looping through the lines of the file to read the whole file, line by line

```
# looping through the lines of the file to read the whole file, line by line

fp= open("file.txt", "r")
for line in fp:
  print(line)
```

Writing to File : write() method

- Uses ‘w’ mode
- ‘w’ mode : If filename does not exists then create it

```
>>> file_object = open('Hello.txt' , 'w') #'w' mode for writing
>>> file_object.write('Hello World')
11
>>> file_object.close()

>>> file_object = open('Hello.txt' , 'r')
>>> data = file_object.read()
>>> print(data)
Hello World
```

Appending to File : write() method

- Uses ‘a’ mode
- ‘a’ mode : Appends the contents to an existing file.

```
# Append to file
fp = open("file2.txt", "a")
fp.write("Adding more contents to the file")
fp.close()

#open and read the file after the appending:
fp = open("demofile2.txt", "r")
print(fp.read())
```

Counting Lines in a File

```
fhand =open('Hello.txt')
count = 0
for line in fhand:
        count = count + 1

print('Line Count:', count)
```

```
Line Count: 1
```

Searching through a File

```
fhand = open(r'C:\Users\Nita Jadav\Desktop\notes_CPT.txt' , 'r')
for line in fhand:
    if line.startswith('A') :
        print(line)
```

ALT+Shift+D =Date

ALT_Shift+T = Time

Deleting Files

- Use ‘os’ module to change file name

```
# Remove the file "dfile.txt"
import os
os.remove("dfile.txt")
```

Check if File exist

```
# Check if file exists, then delete it:
import os
if os.path.exists("dfile.txt"):
  os.remove("dfile.txt")
else:
  print("The file does not exists")
```

Renaming and Deleting Files

- Use ‘os’ module to change file name
- Set path of folder by : getcwd()

```
>>> import os
>>> os.getcwd()
'C:\\Users\\Nita Jadav\\AppData\\Local\\Programs\\Python\\Python36'
>>> os.rename('Hello.txt' , 'Bye.txt')
>>> os.remove('Bye.txt')
```

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