

Files

It is a collection of data or group of records.

open() : It is used for to create new files or to open existing files or to append data to the existings files.

Syntax : fileobject=open("filename","mode")

1. fileobject is an user defined name.
2. filename is your own filename.
3. There are 3 types of modes.

read(r) (Default mode)
write(w)
append(a)

4. File formats are 2 types.
 1. Text format files (Default)
 2. Binary format files.

r (or) rt -> Read in Text format
w (or) wt -> Write in Text format
a (or) at -> Append in Text format

rb -> Read in binary format
wb -> Write in binary format
ab -> Append in binry format.

r+ (or) rt+ -> Read and Write in Text format
w+ (or) wt+ -> Write and Read in Text format
a+ (or) at+ -> Append and Read in Text format

rb+ -> Read and Write in binary format
wb+ -> Write and Read in binary format
ab+ -> Append and Read in binry format.

Read mode :

```
x=open("test.txt","r")
```

In read mode, If the given file exist then it opens a file and places file pointer at beginning of the file.

If the given file doesn't exist then it fails to open a file and returns IOError Exception.

Write mode :

```
x=open("test.txt","w")
```

In write mode, If the given file exist then it opens a file and deletes all file contents and places pointer at beginning of the file.

If the given file doesn't exist then it creates as a new file and places pointer at beginning of the file.

Append mode :

```
x=open("test.txt","a")
```

In append mode, If the given file exist then it opens a file and places pointer at end of the file.

If the given file doesn't exist then it creates as a new file and places pointer at beginning of the file.

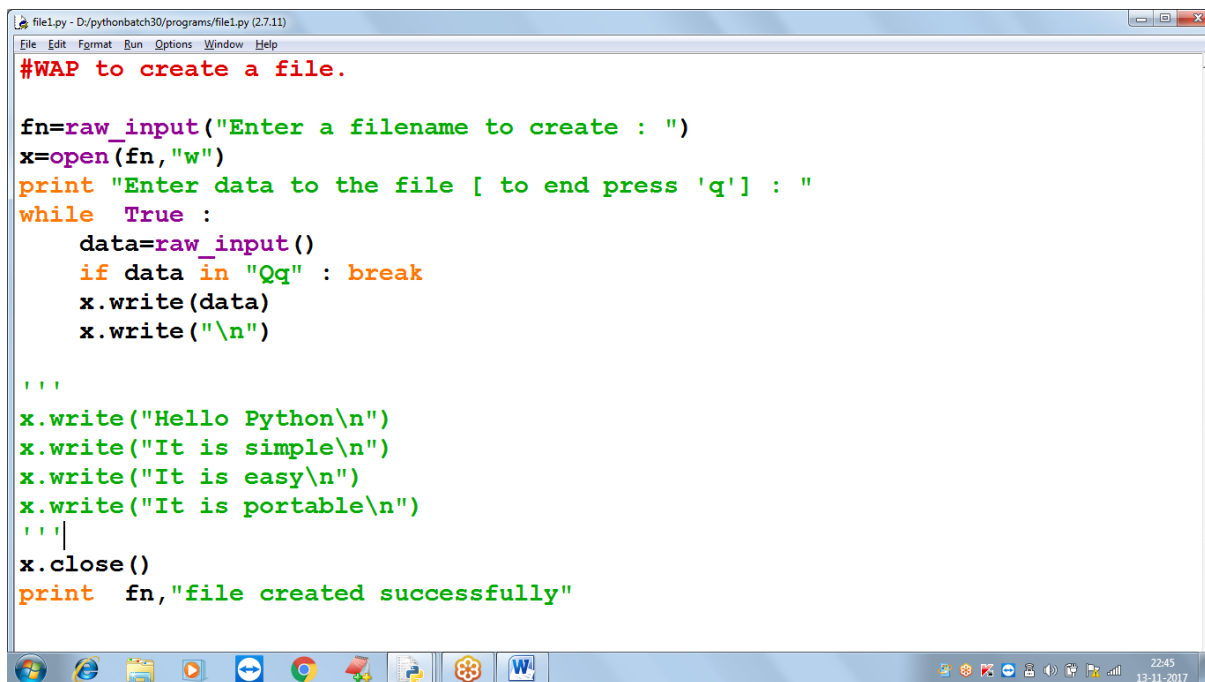
close() :

It is used for to close the file which is already opened.

syntax : `fileobject.close()`

write(str) : It is used to write data to the file in string format.

Syntax : `fileobject.write(string)`

A screenshot of a Python IDE window titled 'file1.py - D:/pythonbatch30/programs/file1.py (2.7.11)'. The window contains a Python script for creating a file. The script prompts the user for a filename, then enters a loop where it prompts for data to be written to the file. After the loop, it writes some predefined text and closes the file. The taskbar at the bottom shows various application icons and the system clock indicating 22:45 on 13-11-2017.

```
file1.py - D:/pythonbatch30/programs/file1.py (2.7.11)
File Edit Format Run Options Window Help

#WAP to create a file.

fn=raw_input("Enter a filename to create : ")
x=open(fn,"w")
print "Enter data to the file [ to end press 'q'] : "
while True :
    data=raw_input()
    if data in "Qq" : break
    x.write(data)
    x.write("\n")

'''
x.write("Hello Python\n")
x.write("It is simple\n")
x.write("It is easy\n")
x.write("It is portable\n")
'''
x.close()
print fn,"file created successfully"
```

read() : It reads whole file and returns in string format.

```
x=open("test.txt","r")
data=x.read()
print data
print type(data)
```

read(n) : It reads 'n' bytes from a file.

readline() : It reads current line from a file.

readlines() : It reads all lines and returns in list format.

tell() : It returns current position of the file pointer.

Syntax : fileobject.tell()

seek() : To place pointer at required position in the file.

Syntax : fileobject.seek(no.of bytes,offset)

offset

0(beginning)

1(current)

2(ending)

with ... open("filename","mode") as fileobject:

```
-----  
-----  
-----  
-----  
-----  
-----  
-----
```

Example :

```
with open("a1.txt","r") as x :  
    data=x.read()  
    print data
```

Notice, that we didn't have to write "x.close()". That will automatically be called.

Attributes:

- **closed:** It returns true if the file is closed and false when the file is open.
- **mode:** Returns access mode with which file was opened.
- **name:** It returns name of the file.

Example :

```
f = open("a1.txt","r")  
print f.closed # False  
print f.mode # read  
print f.name # a1.txt
```

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