File Handling

- What is a File
- What is a file handling
- File methods
- Different Modes
- use of "with" statement
- File:
  - File is saved in some location on our local system to store some information or data.
- Examples:
  - .txt,.pdf,.html,.doc,.png,.jpeg
- File Handling:
  - create,write,read,update,delete
  - create (create,read,write,append,close,delete)
  - open
  - working
  - close
- File methods:
  - open()
    - syntax : file_obj = open("filename","mode")
  - read()
    - synatx : file_obj.read(size)
  - write()
    - syntax : file_obj.write(data)
  - readlines()
    - syntax : file_obj.readlines()
  - close()
    - syntax : file_obj.close()
- Different Modes:
  - open("filename","mode")
  - open("filename","r")
  - open("filename","w")
  - open("filename","a")
  - open("filename","r+")
  - open("filename","w+")
  - open("filename","a+")

creating a file

In [2]:
```
f = open("file.txt","w")
data = "Welcome to python programming workshop"
f.write(data)
print("Done")
f.close()
```

```
Done
```

In [3]:
```
f = open("file1.txt","r")
f.write("welcome to workshop")
print("done")
f.close()
```

```
---------------------------------------------------------------------------
FileNotFoundError                         Traceback (most recent call last)
<ipython-input-3-487166c01967> in <module>
----> 1 f = open("file1.txt","r")
      2 f.write("welcome to workshop")
      3 print("done")
      4 f.close()

FileNotFoundError: [Errno 2] No such file or directory: 'file1.txt'
```

reading the data

In [4]:
```
file = open("file.txt","r")
d = file.read()
print(d)
file.close()
```

```
Welcome to python programming workshop
```

Append some data

In [5]:
```
file = open("file.txt","w")
file.write("Hello everyone")
file.close()
```

In [9]:
```
file = open("file.txt","a")
file.write(" "+"Welcome to python programming workshop")
print("completed")
file.close()
```

```
completed
```

In [10]:
```
file = open("file.txt","a")
file.write("\n"+"srkit students")
print("completed")
file.close()
```

```
completed
```

In [11]:
```
with open("file.txt","r") as file:
    data = file.read()
    print(data)
```

```
Hello everyone Welcome to python programming workshop
srkit students
```

In [12]:
```
# srkit students for 3rd years

with open("file.txt","a") as file:
    file.write(" "+"for 3rd years")
    print("completed"+("*"*20))
```

```
completed********************
```

In [14]:
```
with open("file.txt","a") as file:
    file.write("\n"+input("enter somedata"))
    print("processed"+("."*15))
```

```
enter somedataverygood
processed...............
```

In [ ]:
```
# \ replace with \\
# \ replace with /
# (r-> rawpath or rawloactio),r"D:\foldername\filename"
```

In [18]:
```
f = open(r"D:\Calculator Scilab Code.txt")
data = f.read()
print(data)
f.close()
```

```
function pb1_callback(handles)
//Write your callback for  pb1  here
handles.edit.string=string(handles.edit.string)+string('1')
endfunction


function pb2_callback(handles)
//Write your callback for  pb2  here
handles.edit.string=string(handles.edit.string)+string('2')
endfunction


function pb3_callback(handles)
//Write your callback for  pb3  here
handles.edit.string=string(handles.edit.string)+string('3')
endfunction


function pb4_callback(handles)
//Write your callback for  pb4  here
handles.edit.string=string(handles.edit.string)+string('4')
endfunction


function pb5_callback(handles)
//Write your callback for  pb5  here
handles.edit.string=string(handles.edit.string)+string('5')
endfunction


function pb6_callback(handles)
//Write your callback for  pb6  here
handles.edit.string=string(handles.edit.string)+string('6')
endfunction


function pb7_callback(handles)
//Write your callback for  pb7  here
handles.edit.string=string(handles.edit.string)+string('7')
endfunction


function pb8_callback(handles)
//Write your callback for  pb8  here
handles.edit.string=string(handles.edit.string)+string('8')
endfunction


function pb9_callback(handles)
//Write your callback for  pb9  here
handles.edit.string=string(handles.edit.string)+string('9')
endfunction


function pb_0_callback(handles)
//Write your callback for  pb_0  here
handles.edit.string=string(handles.edit.string)+string('0')
endfunction


function equal_callback(handles)
//Write your callback for  equal  here
stng=handles.edit.string
eq=eval(stng)
handles.edit.string=string(eq)
endfunction


function clear_callback(handles)
//Write your callback for  clear  here
handles.edit.string=""
//newstr= "";
//set(handles.edit,"String", newstr)
endfunction


function add_callback(handles)
//Write your callback for  add  here
handles.edit.string=string(handles.edit.string)+string('+')
endfunction


function sub_callback(handles)
//Write your callback for  sub  here
handles.edit.string=string(handles.edit.string)+string('-')
```

```
endfunction


function mul_callback(handles)
//Write your callback for  mul  here
handles.edit.string=string(handles.edit.string)+string('*')
endfunction


function div_callback(handles)
//Write your callback for  div  here
handles.edit.string=string(handles.edit.string)+string('/')
endfunction
```

- File objective methods:
  - seek()
    - used to change the cursor postion
  - tell()
    - used to know the cursor position

In [37]:
```
f = open("file.txt","r")
data = f.read()
print(f.tell())
#print(data)
f.seek(100)
print("after changing the cursor position",f.tell())

f.close()
```

```
106
after changing the cursor position 100
```

- Read the data in reverse order

In [38]:
```
with open("file.txt","r") as file:
    data = file.read()
    print(data)
```

```
Hello everyone Welcome to python programming workshop
srkit students for 3rd years
interesting
verygood
```

In [40]:
```
a = "apssdc"
a[::-1]
```

Out[40]: 'cdsspa'

In [42]:
```
# reverse the data
with open("file.txt","r") as f:
    data = f.read()
    print(data[::-1])
```

```
doogyrev
gnitseretni
sraey dr3 rof stneduts tikrs
pohskrow gnimmargorp nohtyp ot emocleW enoyreve olleH
```

In [45]:
```
# read the data line by line
with open("file.txt","r") as f:
    d = f.readlines()
    print(d)
```

```
['Hello everyone Welcome to python programming workshop\n', 'srkit students for 3rd years\n', 'interesting\n',
'verygood']
```

In [46]:
```
# read the data line by line
with open("file.txt","r") as f:
    d = f.readlines()
    for lines in d:
        print(lines)
```

```
Hello everyone Welcome to python programming workshop

srkit students for 3rd years

interesting

verygood
```

In [64]:
```
# split data and find how many words are present in each line
with open("file.txt","r") as f:
    d = f.readlines()
    for lines in d:
        #print(lines)
        words = lines.split()
        print(words)
        print("length of words",len(words))
```

```
['Hello', 'everyone', 'Welcome', 'to', 'python', 'programming', 'workshop']
length of words 7
['srkit', 'students', 'for', '3rd', 'years']
length of words 5
['interesting']
length of words 1
['verygood']
length of words 1
```

In [49]:
```
a = "apssdc is conducting workshop"
s = a.split()
print(len(s))
print(s)
```

```
4
['apssdc', 'is', 'conducting', 'workshop']
```

In [ ]:
```
# find the length of each word and also print the word
```

In [86]:
```
with open("file.txt","r") as file:
    data=file.readlines()
    for line in data:
        #print(line)
        S=line.split()
        #print(S)
        for word in S:
             print(word,"---->",len(word))
```

```
Hello ----> 5
everyone ----> 8
Welcome ----> 7
to ----> 2
python ----> 6
programming ----> 11
workshop ----> 8
srkit ----> 5
students ----> 8
for ----> 3
3rd ----> 3
years ----> 5
interesting ----> 11
verygood ----> 8
```

In [ ]:
```
# find the frequency of each word

#input : "hii everyone  hii"

# output : {"hii":2,,"everyone":1}
```

In [98]:
```
with open("file.txt","r") as file:
    data=file.readlines()
    for line in data:
        #print(line)
        S=line.split()
        #print(S)
        f = {}
        for word in S:
            if word not in f:
                f[word]=1 # f[word]=S.count(word)
            else:
                f[word]+=1
        print(f)
```

```
{'Hello': 1, 'everyone': 1, 'Welcome': 1, 'to': 1, 'python': 1, 'programming': 1, 'workshop': 1}
{'srkit': 1, 'students': 1, 'for': 1, '3rd': 1, 'years': 1}
{'interesting': 1}
{'verygood': 1}
```

In [99]:
```
f = open("file.txt", "r")
d = dict()
for line in f:
    line = line.strip()
    line = line.lower()
    words = line.split(" ")
    for word in words:
        if word in d:
            d[word] = d[word] + 1
        else:
            d[word] = 1
for key in list(d.keys()):
    print(key, ":", d[key])
```

```
hello : 1
everyone : 1
welcome : 1
to : 1
python : 1
programming : 1
workshop : 1
srkit : 1
students : 1
for : 1
3rd : 1
years : 1
interesting : 1
verygood : 1
```

In [106]:
```
with open("file.txt","r") as file:
    data=file.readlines()
    Frq={}
    for line in data:
        S=line.split()
        for word in S:
            Frq[word] =S.count(word)
print(Frq)
```

```
{'Hello': 1, 'everyone': 1, 'Welcome': 1, 'to': 1, 'python': 1, 'programming': 1, 'workshop': 1, 'srkit': 1,
'students': 1, 'for': 1, '3rd': 1, 'years': 1, 'interesting': 1, 'verygood': 1}
```

In [ ]: