Working With Files

2. Reading and Writing Files

In [1]:
```
fp = open( "testFiles/myFile.txt", 'r')

for line in fp:
    print(line, end="")

fp.close()
```

```
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
```

In [2]:
```
# Let us Add line numbers to the output

fp = open("TestFiles/myFile.txt", 'r')

n = 0
for line in fp:
    n += 1
    print(n, line, end='')

fp.close()

print()
print('Read {} lines.'.format(n) )
```

```
1 Python Programming is Fun
2 Python Programming is Fun
3 Python Programming is Fun
4 Python Programming is Fun
5 Python Programming is Fun
6 Python Programming is Fun
7 Python Programming is Fun
8 Python Programming is Fun
9 Python Programming is Fun
10 Python Programming is Fun

Read 10 lines.
```

In [3]:
```
fp = open("TestFiles/myFile.txt", 'r')

n = 0
for line in fp.readlines():
    n += 1
    print(n, line, end='')

fp.close()

print()
print('Read {} lines.'.format(n) )
```

```
1 Python Programming is Fun
2 Python Programming is Fun
3 Python Programming is Fun
4 Python Programming is Fun
5 Python Programming is Fun
6 Python Programming is Fun
7 Python Programming is Fun
8 Python Programming is Fun
9 Python Programming is Fun
10 Python Programming is Fun

Read 10 lines.
```

In [6]:
```
# Reading from a file and writing to another file

iFile = open('testFiles/myFile.txt', 'r')
oFile = open('testFiles/myFile2.txt', 'w')

for line in iFile:
    print(line, file = oFile, end = '')

print('Done')
```

```
Done
```

In [8]:
```
! ls -l testFiles
```

```
total 2520
-rw-r-----@ 1 krishnayamarthy  staff  757942 Oct 18  2014 Switzerl
and.jpg
-rw-r--r--  1 krishnayamarthy  staff  260000 Oct 18  2014 largeFil
e.txt
-rw-r--r--  1 krishnayamarthy  staff  260000 Sep 28 18:17 largeFil
e2.txt
-rw-r--r--  1 krishnayamarthy  staff     260 Oct 20  2014 myFile.t
xt
```

3. Buffered Read and Write

In [10]:
```
BUFFSIZE = 25000

iFileName = "testFiles/largeFile.txt"
oFileName = "testFiles/largeFile-2.txt"

iFile = open(iFileName, 'r' )
oFile = open(oFileName, 'w' )

buffer = iFile.read( BUFFSIZE )

while( len( buffer )):
    oFile.write(buffer)
    print("{} bytes written to {}".format(len(buffer), oFileName))
    buffer = iFile.read(BUFFSIZE)

print("Done")
```

```
25000 bytes written to testFiles/largeFile-2.txt
25000 bytes written to testFiles/largeFile-2.txt
25000 bytes written to testFiles/largeFile-2.txt
25000 bytes written to testFiles/largeFile-2.txt
25000 bytes written to testFiles/largeFile-2.txt
25000 bytes written to testFiles/largeFile-2.txt
25000 bytes written to testFiles/largeFile-2.txt
25000 bytes written to testFiles/largeFile-2.txt
25000 bytes written to testFiles/largeFile-2.txt
25000 bytes written to testFiles/largeFile-2.txt
10000 bytes written to testFiles/largeFile-2.txt
Done
```

In [25]:
```
! ls -l testFiles
```

```
total 2520
-rw-r-----@ 1 krishnayamarthy  staff  757942 Sep 29 17:52 Switzerl
and.jpg
-rw-r--r--  1 krishnayamarthy  staff  260000 Sep 29 16:01 largeFil
e-2.txt
-rw-r--r--  1 krishnayamarthy  staff  260000 Sep 29 17:53 largeFil
e.txt
-rw-r--r--  1 krishnayamarthy  staff     260 Sep 29 17:53 myFile.t
xt
```

In [26]:
```
BUFFSIZE = 50000

iFileName = "testFiles/Switzerland.jpg"
oFileName = "testFiles/Switzerland-2.jpg"

iFile = open(iFileName, 'rb' )
oFile = open(oFileName, 'wb' )

buffer = iFile.read( BUFFSIZE )

while( len( buffer )):
    oFile.write(buffer)
    print("{} bytes written to {}".format(len(buffer), oFileName))
    buffer = iFile.read(BUFFSIZE)

print("Done")
```

```
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
50000 bytes written to testFiles/Switzerland-2.jpg
7942 bytes written to testFiles/Switzerland-2.jpg
Done
```

In [27]:
```
! ls -l testFiles
```

```
total 4008
-rw-r--r--  1 krishnayamarthy  staff  757942 Sep 29 17:58 Switzerl
and-2.jpg
-rw-r-----@ 1 krishnayamarthy  staff  757942 Sep 29 17:52 Switzerl
and.jpg
-rw-r--r--  1 krishnayamarthy  staff  260000 Sep 29 16:01 largeFil
e-2.txt
-rw-r--r--  1 krishnayamarthy  staff  260000 Sep 29 17:53 largeFil
e.txt
-rw-r--r--  1 krishnayamarthy  staff     260 Sep 29 17:53 myFile.t
xt
```

In [24]:
```
! ls -l testFiles
```

```
total 2520
-rw-r-----@ 1 krishnayamarthy  staff  757942 Sep 29 17:52 Switzerl
and.jpg
-rw-r--r--  1 krishnayamarthy  staff  260000 Sep 29 16:01 largeFil
e-2.txt
-rw-r--r--  1 krishnayamarthy  staff  260000 Sep 29 17:53 largeFil
e.txt
-rw-r--r--  1 krishnayamarthy  staff     260 Sep 29 17:53 myFile.t
xt
```

In [14]:
```python
BUFFSIZE = 25000

iFileName = "testFiles/Switzerland.jpg"
oFileName = "testFiles/Switzerland-2.jpg"

iFile = open(iFileName, 'rb' )
oFile = open(oFileName, 'wb' )

buffer = iFile.read( BUFFSIZE )

while( len( buffer )):
    oFile.write(buffer)
    print("{} bytes written to {}".format(len(buffer), oFileName))
    buffer = iFile.read(BUFFSIZE)

print("Done")
```

```
25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
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25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
25000 bytes written to testFiles/Switzerland-2.jpg
7942 bytes written to testFiles/Switzerland-2.jpg
Done
```

4. Other File Object Methods

In [15]:
```
! ls -l testFiles
```

```
total 4520
-rw-r--r--  1 krishnayamarthy  staff  757942 Sep 29 16:07 Switzerl
and-2.jpg
-rw-r-----@ 1 krishnayamarthy  staff  757942 Oct 18  2014 Switzerl
and.jpg
-rw-r--r--  1 krishnayamarthy  staff  260000 Sep 29 16:01 largeFil
e-2.txt
-rw-r--r--  1 krishnayamarthy  staff  260000 Oct 18  2014 largeFil
e.txt
-rw-r--r--  1 krishnayamarthy  staff  260000 Sep 28 18:17 largeFil
e2.txt
-rw-r--r--  1 krishnayamarthy  staff     260 Oct 20  2014 myFile.t
xt
```

In [18]:
```
f = open("testFiles/myFile.txt", "r")

fpos = f.tell()
print("fpos =", fpos )

line = f.readline()
print(line, end="")
fpos = f.tell()
print("fpos =", fpos )

line = f.readline()
print(line, end="")
fpos = f.tell()
print("fpos =", fpos )
```

```
fpos = 0
Python Programming is Fun
fpos = 26
Python Programming is Fun
fpos = 52
```

In [23]:
```
f = open("testFiles/myFile.txt", "r")

fpos = f.tell()
print("fpos =", fpos )

data = f.read()
print(len(data))
print(data)

fpos = f.tell()
print("fpos =", fpos )

#-------------------------------------

print("-" * 50 )

data = f.read()
print(len(data))
print(data)

fpos = f.tell()
print("fpos =", fpos )

f.seek(0)

print("-" * 50 )

data = f.read()
print(len(data))
print(data)

fpos = f.tell()
print("fpos =", fpos )


f.seek(100)

print("-" * 50 )

data = f.read()
print(len(data))
print(data)

fpos = f.tell()
print("fpos =", fpos )
```

```
fpos = 0
260
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun

fpos = 260
--------------------------------------------------
0

fpos = 260
--------------------------------------------------
260
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun

fpos = 260
--------------------------------------------------
160
Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun
Python Programming is Fun

fpos = 260
```

In [ ]: