**File Handling 18-02-2025**

🡪Python has several functions for creating, reading, updating and deleting files.

🡪The key function for working with files in python is the **open()** function.

🡪The open function takes 2 parameters; filename and mode.

🡪There are 4 different methods to open a file:

* **”r”** 🡪 Read- Default value. Opens a file for reading ,error if the file does not exist
* **“a”** 🡪 Append- Opens a file for appending, creates the file if it does not exist.
* **“w”** 🡪 Write- Opens a file for writing, creates a file if does not exist.
* **“x”** 🡪 Creates the specified file, returns an error if the file exists.

**Syntax:**

f=open(“filename.txt”)

🡪We can write the above code as :

f=open(“filename.txt”, ”rt”)

🡪Because ‘r’ for read and ‘t’ for text are the default values , we no need to specify them.

**Open a file:**

🡪To open a file ,use the bulit-in **open()** function.

🡪The **open()** function returns a file object, which has a **read()** method for reading the content of the file:

**Example :**

f=open("C:\\Users\\deept\\Documents\\Sample.txt",'r')  
print(f.read())

Output:

List is mutable.

Tuple is immutable.

Python is major language to create data science applications.

**To read first 5 words in a file:**

f=open("C:\\Users\\deept\\Documents\\Sample.txt",'r')  
print(f.read(5))

Output:

List

**To read the first 10 words in a file:**

f=open("C:\\Users\\deept\\Documents\\Sample.txt",'r')  
print(f.read(7))

Output:

List is

**ReadLines:**

🡪We can return only one line by using the **readline()** method:

**Example:**

f=open("C:\\Users\\deept\\Documents\\Sample.txt",'r')  
print(f.readline())

Output:

List is mutable.

🡪By calling the readline() two times, we can read the first two lines:

f=open("C:\\Users\\deept\\Documents\\Sample.txt",'r')

print(f.readline())

print(f.readline())

Output:

List is mutable.

Tuple is immutable.

🡪By looping through the lines of the file, we can read the whole file, line by line.

f=open("C:\\Users\\deept\\Documents\\Sample.txt",'r')  
for x in f:  
 print(x)

Output:

List is mutable.

Tuple is immutable.

Python is major language to create data science applications.

**Close files:**

🡪It is good practise to always close the file when you are done with it.

f=open("C:\\Users\\deept\\Documents\\Sample.txt",'r')  
print(f.readline())  
f.close()

Output:

List is mutable.

**Writing to an existing file:**

🡪To write to an existing file, you must add a parameter to the **open()** function.

🡪**”a”** – Append – will append to the end of the file.

🡪**”w”** – Write – will overwrite existing content.

**Example:**

f=open("C:\\Users\\deept\\Documents\\Sample.txt",'a')  
f.write('File handling is important concept in Python')  
f.close()  
f=open("C:\\Users\\deept\\Documents\\Sample.txt",'r')  
print(f.read())

Output:

List is mutable.

Tuple is immutable.

Python is major language to create data science applications.File handling is important concept in Python

**Example:**

f=open("C:\\Users\\deept\\Documents\\Sample.txt",'w')  
f.write('Oops!, I have updated the text')  
f.close()  
f=open("C:\\Users\\deept\\Documents\\Sample.txt",'r')  
print(f.read())

Output:

Oops!, I have updated the text

**Create a New File:**

🡪To create a new file in Python, use the **open()** method with one of the following parameters:

* **"x"** - Create - will create a file, returns an error if the file exists.
* **"a"**- Append - will create a file if the specified file does not exists.
* **"w"** - Write - will create a file if the specified file does not exists.

**Example:**

f=open("C:\\Users\\deept\\Documents\\Myfile.txt","x")

Output:

The new file is created in the given location.

**Delete a file:**

🡪To delete a file, we must import the OS module, and run its **os.remove()** function:

**Example:**

import os  
os.remove("C:\\Users\\deept\\Documents\\Myfile.txt")

Output:

The file has removed.

**Check if file exist:**

🡪To avoid getting an error, we might want to check if the file exists before to try to delete it:

**Example:**

import os  
if os.path.exists("C:\\Users\\deept\\Documents\\Myfile.txt"):  
 os.remove("C:\\Users\\deept\\Documents\\Myfile.txt")  
else:  
 print('The file does not exist')

Output:

The file does not exist

**Delete Folder:**

🡪To delete an entire folder, use the **os.rmdir()** method:

**Example:**

Import os

os.rmdir(“folder\_name”)

**Advantages:**

* Versatility
* Flexibility
* User-friendly
* Cross-Platform

**Disadvantages:**

* Error Prone
* Security risks
* Complexity
* Performance