# files

The purpose of files in any programs is that 'to maintain data persistency '. data persistency is nothing but storing data permanently.

# types of persistency

1.using files (stream): the flow of data between objects of main memory and files of secondary memory is called stream.

2.using RDBMS

# operations of files

1.write: to save the objects data of main memory as record in the files of secondery memory.

2.read: read the data from record of sm into the obj of mm.

# files opening modes in pyton

r: read the data,default is r only.

w: write the data,if we open existing file then data will overlapped print all once.

a: same as w the only difference is data will not overlapped ,print only new if we use existing file.

r+: read thn write

w+ : write and thn read

a+: write and read and also print previous and new data.

x: like biometric,data detect automatically need to feed,only read.

x+: write and read both automatically

# no of approaches to open file modes

1.open() : does not provide auto close ,have to use close() at end to close the data.

syntax:varname(filepointer)=open('filename','filemode')

2.with open() as : provide auto close ability,no need to write close() .ex:like home wifi.

# writing the data to the files.

1.write(): syntax: filepointer.write(str obj)

2.writelines(): syntax: filepointer.writelines(iob)

3.read(): syntax: filepointer.read(str obj)

4.readlines(): syntax: filepointer.readlines(list obj)

In [ ]:
```
#dynamicread.py

def filedataread():
    filename=input('enter your filename')
    with open(filename,'r') as fp:
        data=fp.read()
        print('content of file',fp.name)
        print(data)
```

In [ ]:
```
#dynamiwrite.p

with open('hyd.info','a') as fp:
    print('enter information about hyd')
```

```
    print('='*50)
    while True:
        kbdata=input()
        if kbdata!='@':
            fp.write(kbdata+'/n')
        else:
            print('data is stored')
            break
```

In [ ]:
```
#filewriteex1.py

total_bill=100
sex ='female'
tip=10
smoker ='no'
day='sun'
time ='brunch'
size=2
with open ("tips.data","a") as tp:
    tp.write(str(total_bill))
    tp.write(sex)
    tp.write(str(tip))
    tp.write(smoker)
    tp.write(day)
    tp.write(time)
    tp.write(str(size))
    tp.write('\n')
    print('data written to the file')
```

In [ ]:
```
#filewriteex2.py

x={10:'python',20:'java',30:'c'}
fp=open('students','a')
fp.writelines(str(x))
print('data written to the file')
```

In [ ]:
```
#filereadex1.py

with open("tips.data") as  fp:
    data=fp.read()
    print(data)
```

In [ ]:
```
#filereadex2.py

with open('tips.data') as fp:
    data=fp.readlines()
    print('='*50)
    for fp in data:
        print(fp,end=" ")
```

In [ ]:
```
#fileopex1.py

try:
    alina=open(r"C:\Users\shaba\OneDrive\data scinece 2\students_data.csv")
    print('by default file open in read mode')
    print('type of file',type(alina))
    print('befor close(),is file closed (true/false)=',alina.closed)
except FileNotFoundError:
    print("file does not exist")
finally:
    print('i am from final block')
    alina.close()
    print("after used close(),is file closed (true/false)=",alina.closed)
```

In [ ]:
```
#fileopex2.py

with open(r"C:\Users\shaba\OneDrive\data scinece 2\students_data.csv","w") as fp:
    print('='*50)
    print('file opened in write mode')
    print('='*50)
    print('type of file',type(fp))
    print("name of the file",fp.name)
    print('mode of the file',fp.mode)
    print('is file readable',fp.readable())
    print('is file writeable',fp.writable())
    print('is file closed(true/false)=',fp.closed)
    print('='*50)
```