working with sqlite database:
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        if we want to working with sqlite database to required sqlite3 python DataBase API.

        sqlite3 is a builtin python DataBase API

if we want to visualize the sqlite database by using sqlitestudio GUI application.

if we want to use sqlitestudio GUI application,first we need to download and extracting that downloaded file,dont required installation.

        https://sqlitestudio.pl/
                |
        to click on download
                |
        to extract the downloaded file
                |
        goto extracted folder
                |
        goto sqlitestudio folder
                |
        double click sqliteStudio application

ex1:
---
wap to create a database?

```
import sqlite3
sqlite3.connect("myemploye.db")
print("Database Created Successfully")
```

output:

Database Created Successfully

ex2:
---
wap to create a table?

```
        create table tablename(column_name_1 datatype(size) constraint,
                                column_name_2 datatype(size),
                                column_name_3 datatype(size),
                                        ........
                                        ........
                                column_name_n datatype(size));


import sqlite3
conn_obj=sqlite3.connect("myemploye.db")
```

```
print("Connection Establish")
cur_obj=conn_obj.cursor()
cur_obj.execute("create table emp(eid integer primary key,\
ename string,sal double(6,2),dno integer)")
print("Table Created Successfully")
cur_obj.close()
conn_obj.close()
```

ex3:
---
wap to insert the data into the database?

```
        insert into tablename values(value_1,value_2,...,value_n);
```

```
import sqlite3
conn_obj=sqlite3.connect("myemploye.db")
print("Connection Establish")
cur_obj=conn_obj.cursor()
cur_obj.execute("insert into emp values(101,'siva',3000,10)")
cur_obj.execute("insert into emp values(102,'virat',3100,20)")
cur_obj.execute("insert into emp values(103,'dhoni',2900,30)")
cur_obj.execute("insert into emp values(104,'sachin',2800,10)")
cur_obj.execute("insert into emp values(105,'laxman',3000,30)")
cur_obj.execute("insert into emp values(106,'rama',3100,10)")
cur_obj.execute("insert into emp values(107,'shewag',2500,20)")
cur_obj.execute("insert into emp values(108,'mithali',2700,30)")
cur_obj.execute("insert into emp values(109,'rohith',3000,10)")
cur_obj.execute("insert into emp values(110,'dravid',2800,30)")
cur_obj.execute("insert into emp values(111,'krishna',2700,10)")
print("Records are Inserted Successfully")
cur_obj.execute("commit")
print("commit completed")
cur_obj.close()
conn_obj.close()
print("Connection Closeing")
```

output:

```
Connection Establish
Records are Inserted Successfully
commit completed
Connection Closeing
```

ex4:
---
wap to retreive the data from the database?

```
        select * from tablename;
```

(or)

```
select column_name_1,column_name_2,...,column_name_n from tablename;
```

```
import sqlite3
conn_obj=sqlite3.connect("myemploye.db")
print("Connection Establish")
cur_obj=conn_obj.cursor()
cur_obj.execute("select * from emp")
for rec in cur_obj:
    print(rec)
cur_obj.close()
conn_obj.close()
print("Connection Closeing")
```

```
output:
------
Connection Establish
(101, 'siva', 3000.0, 10)
(102, 'virat', 3100.0, 20)
(103, 'dhoni', 2900.0, 30)
(104, 'sachin', 2800.0, 10)
(105, 'laxman', 3000.0, 30)
(106, 'rama', 3100.0, 10)
(107, 'shewag', 2500.0, 20)
(108, 'mithali', 2700.0, 30)
(109, 'rohith', 3000.0, 10)
(110, 'dravid', 2800.0, 30)
(111, 'krishna', 2700.0, 10)
Connection Closeing
```

```
ex5:
----
import sqlite3
conn_obj=sqlite3.connect("myemploye.db")
print("Connection Establish")
cur_obj=conn_obj.cursor()
cur_obj.execute("select eid,ename,dno from emp")
for rec in cur_obj:
    print(rec)
cur_obj.close()
conn_obj.close()
print("Connection Closeing")
```

```
output:
------
Connection Establish
(101, 'siva', 10)
(102, 'virat', 20)
(103, 'dhoni', 30)
```

```
(104, 'sachin', 10)
(105, 'laxman', 30)
(106, 'rama', 10)
(107, 'shewag', 20)
(108, 'mithali', 30)
(109, 'rohith', 10)
(110, 'dravid', 30)
(111, 'krishna', 10)
Connection Closeing
```

ex6:
---
wap to fetch the only one record from cursor object?

we can fetch only one record from cursor object in that case by calling fetchone() of cursor object.

```
import sqlite3
conn_obj=sqlite3.connect("myemploye.db")
print("Connection Establish")
cur_obj=conn_obj.cursor()
cur_obj.execute("select * from emp")
rec=cur_obj.fetchone()
print(rec)
cur_obj.close()
conn_obj.close()
print("Connection Closeing")
```

output:

```
Connection Establish
(101, 'siva', 3000.0, 10)
Connection Closeing
```

ex7:
---
wap to fetch the many records from the cursor object?

we can fetch the many records from cursor object,in that case we are calling fetchmany(N).

the fetchmany(N) to return the records in the form of list object.

```
import sqlite3
conn_obj=sqlite3.connect("myemploye.db")
print("Connection Establish")
cur_obj=conn_obj.cursor()
cur_obj.execute("select * from emp")
records=cur_obj.fetchmany(3)
```

```
print(records)
cur_obj.close()
conn_obj.close()
print("Connection Closeing")

output:
-------
Connection Establish
[(101, 'siva', 3000.0, 10), (102, 'virat', 3100.0, 20), (103, 'dhoni', 2900.0, 30)]
Connection Closeing

ex8:
---
wap to fetch all the records from cursor object?

        we can fetch all the records from cursor object,by calling fetchall() of
cursor object.

        the fetchall() to return the list object

import sqlite3
conn_obj=sqlite3.connect("myemploye.db")
print("Connection Establish")
cur_obj=conn_obj.cursor()
cur_obj.execute("select * from emp")
records=cur_obj.fetchall()
print(records)
cur_obj.close()
conn_obj.close()
print("Connection Closeing")

output:
------
Connection Establish
[(101, 'siva', 3000.0, 10), (102, 'virat', 3100.0, 20), (103, 'dhoni', 2900.0, 30),
(104, 'sachin', 2800.0, 10), (105, 'laxman', 3000.0, 30), (106, 'rama', 3100.0,
10), (107, 'shewag', 2500.0, 20), (108, 'mithali', 2700.0, 30), (109, 'rohith',
3000.0, 10), (110, 'dravid', 2800.0, 30), (111, 'krishna', 2700.0, 10)]
Connection Closeing

how to ordering the records?
---------------------------
        we can ordering the records by using order by clause.

        select * from emp order by columname ordertype;
                                              ---------
                                                 |
                                ------------------------
                                |                      |
                                ascending(default)    descending
```

(asc) (desc)

ex9:
---
wap to print the employe data in ascending order based on salry?

```
import sqlite3
conn_obj=sqlite3.connect("myemploye.db")
print("Connection Establish")
cur_obj=conn_obj.cursor()
cur_obj.execute("select * from emp order by sal")
for rec in cur_obj:
    print(rec)
cur_obj.close()
conn_obj.close()
print("Connection Closeing")
```

output:

```
Connection Establish
(107, 'shewag', 2500.0, 20)
(108, 'mithali', 2700.0, 30)
(111, 'krishna', 2700.0, 10)
(104, 'sachin', 2800.0, 10)
(110, 'dravid', 2800.0, 30)
(103, 'dhoni', 2900.0, 30)
(101, 'siva', 3000.0, 10)
(105, 'laxman', 3000.0, 30)
(109, 'rohith', 3000.0, 10)
(102, 'virat', 3100.0, 20)
(106, 'rama', 3100.0, 10)
Connection Closeing
```

ex10:
-----
wap to print the employe data in descending order based on salry?

```
import sqlite3
conn_obj=sqlite3.connect("myemploye.db")
print("Connection Establish")
cur_obj=conn_obj.cursor()
cur_obj.execute("select * from emp order by sal desc")
for rec in cur_obj:
    print(rec)
cur_obj.close()
conn_obj.close()
print("Connection Closeing")
```

output:

```
Connection Establish
(102, 'virat', 3100.0, 20)
(106, 'rama', 3100.0, 10)
(101, 'siva', 3000.0, 10)
(105, 'laxman', 3000.0, 30)
(109, 'rohith', 3000.0, 10)
(103, 'dhoni', 2900.0, 30)
(104, 'sachin', 2800.0, 10)
(110, 'dravid', 2800.0, 30)
(108, 'mithali', 2700.0, 30)
(111, 'krishna', 2700.0, 10)
(107, 'shewag', 2500.0, 20)
Connection Closeing
```