Deleting rows from database table
For deleting rows from database table, SQL provides a command called “DELETE”.

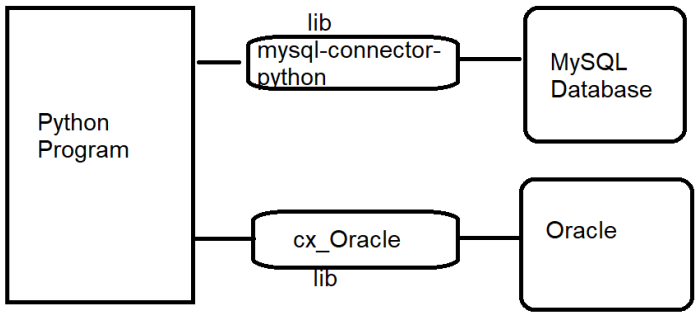
Example:
```
import mysql.connector as mysql

cn=mysql.connect(database="pydb7",user="root",password="root")
c=cn.cursor()
rollno=int(input("Enter Rollno of Student to Delete ?"))
c.execute("delete from student where rollno=%s",params=[rollno])
a=c.rowcount
if a>0:
    print("Student Deleted")
    cn.commit()
else:
    print("Invalid Rollno")
```

Output:
```
Enter Rollno of Student to Delete ?2
Student Deleted

Enter Rollno of Student to Delete ?2
Invalid Rollno
```

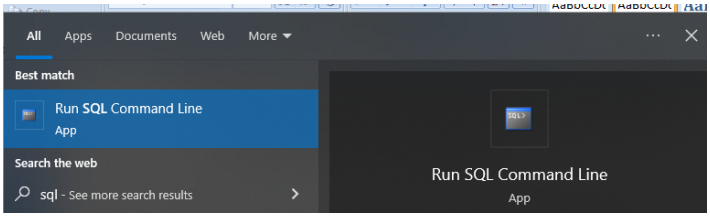
```
mysql> select * from student;
+--------+---------+--------+---------+
| rollno | name    | course | fee     |
+--------+---------+--------+---------+
|      1 | naresh  | python | 9000.00 |
|      3 | kishore | C++    | 2000.00 |
|      4 | ramesh  | ui     | 6000.00 |
+--------+---------+--------+---------+
3 rows in set (0.00 sec)

mysql>
```

How to communicate with ORACLE database

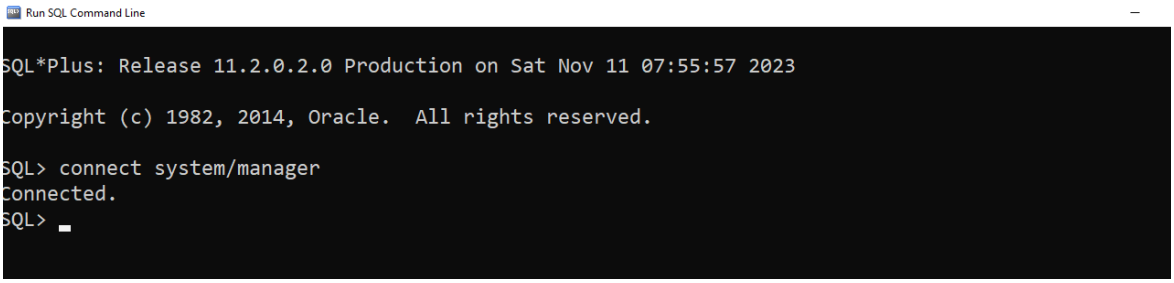
1. Install Oracle Software (Oracle 11g)
2. Install library cx_Oracle (Python 3.8,Python 3.9)



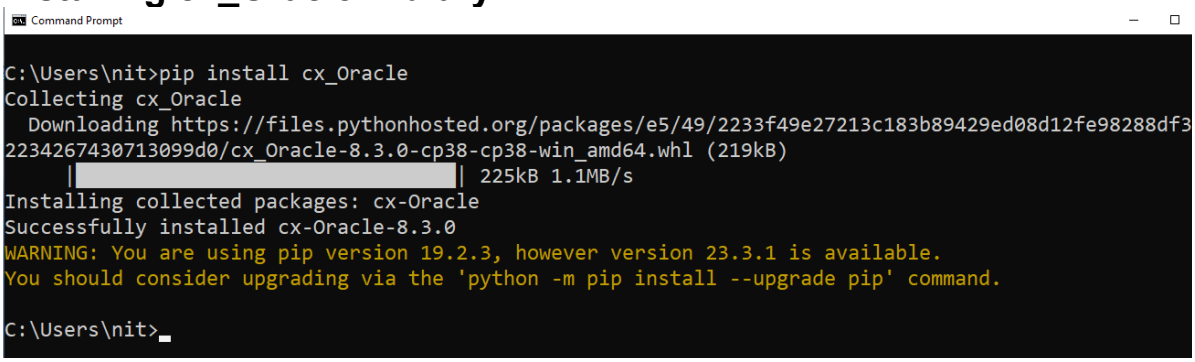
To work with oracle database

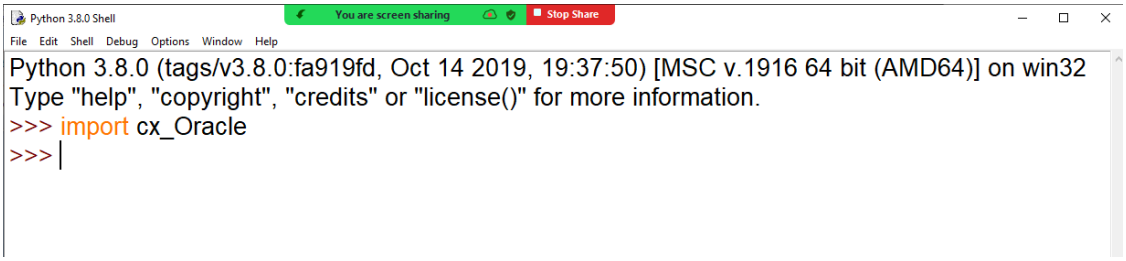


User name: system
Password : manager



Installing cx_Oracle Library





Oracle Express Edition → Database Name→ XE
Oracle Enterprise Edition → Database Name → ORCL

Example:

```
# Establishing Connection to Database

import cx_Oracle

cn=cx_Oracle.connect("system/manager@XE")
print("Connection Established...")
```

Output:

```
Connection Established...
```

Example:

```
# Write a Python program to create table within database

import cx_Oracle

cn=cx_Oracle.connect("system/manager@XE")
c=cn.cursor()
c.execute('''create table user_register(
name varchar2(20),
uname varchar2(15) primary key,
pwd varchar2(15))''')
print("Table Created...")
cn.close()
```

Output:

```
Table Created...
```

```
SQL> connect system/manager
Connected.
SQL> desc user_register;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 NAME                                               VARCHAR2(20)
 UNAME                                     NOT NULL VARCHAR2(15)
 PWD                                                VARCHAR2(15)

SQL>
```

Example:
Write a program to register user or signup (inserting user details into database table)

```
import cx_Oracle
cn=cx_Oracle.connect("system/manager@XE")
c=cn.cursor()
print("Signup Details")
name=input("Name :")
user=input("UserName :")
password=input("Password :")
try:
    c.execute("insert into user_register
values(:1,:2,:3)",(name,user,password))
    print("User Registered....")
    cn.commit()
except:
    print("User Name exists")
finally:
    cn.close()
```

Output:

```
Signup Details
Name :naresh
UserName :nit
Password :nit123
User Registered....
>>>

Signup Details
Name :naresh
UserName :nit
```

Password :nit123
User Name exists

```
SQL> select * from user_register;

NAME                 UNAME           PWD
-------------------- --------------- ---------------
naresh               nit             nit123

SQL> _
```

Example:
Write a program to signin (reading data from database table)

```
import cx_Oracle
cn=cx_Oracle.connect("system/manager@XE")
c=cn.cursor()
print("Signin")
user=input("UserName : ")
pwd=input("Password   : ")
c.execute("select * from user_register where uname=:1 and
pwd=:2",(user,pwd))
row=c.fetchone()
if row==None:
    print("Invalid username or password")
else:
    print(f'{user} welcome')
```

Output:
```
Signin
UserName : nit
Password   : nit123
nit welcome
>>>
Signin
UserName : abc
Password   : xyz
Invalid username or password
```

Example:
Write a program to update password of user

```
import cx_Oracle
cn=cx_Oracle.connect("system/manager@XE")
c=cn.cursor()
print("Update Password")
user=input("UserName ")
oldp=input("Old Password ")
newp=input("New Password ")
c.execute("update user_register set pwd=:1 where uname=:2 and
pwd=:3",(newp,user,oldp))
a=c.rowcount
if a>0:
   print("password updated...")
   cn.commit()
else:
   print("invalid username or password")

cn.close()
```

Output:

```
Update Password
UserName nit
Old Password nit123
New Password nit321
password updated...
```

Example:

```
# Write a program to delete user from database table
import cx_Oracle

cn=cx_Oracle.connect("system/manager@XE")
c=cn.cursor()

print("User Deletion")
user=input("UserName ")
c.execute("Delete from user_register where uname=:1",(user,))
a=c.rowcount
if a>0:
   print("user deleted...")
   cn.commit()
else:
```

```
    print("invalid username")
```

Output:

```
User Deletion
UserName nit
user deleted...
>>>

User Deletion
UserName nit
invalid username
```

Networking (socket module)

Python is general purpose programming language; this language is used to develop any application or software.
Using socket module, python developer can develop networking application.