

# Database in Python

First we need to check we have python and MySQL installed or not in our system.

```
C:\> Command Prompt
Microsoft Windows [Version 10.0.19045.4780]
(c) Microsoft Corporation. All rights reserved.

C:\Users\USER>mysql --version
mysql Ver 8.0.39 for Win64 on x86_64 (MySQL Community Server - GPL)
```

Then we will install MySQL driver using CMD

Pip install [mysql.connector-python](#)

If I want to show the databases using CMD. We have to use this.

```
C:\> Command Prompt - mysql -u root -p
mysql Ver 8.0.39 for Win64 on x86_64 (MySQL Community Server - GPL)

C:\Users\USER>mysql -u root -p
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.39 MySQL Community Server - GPL

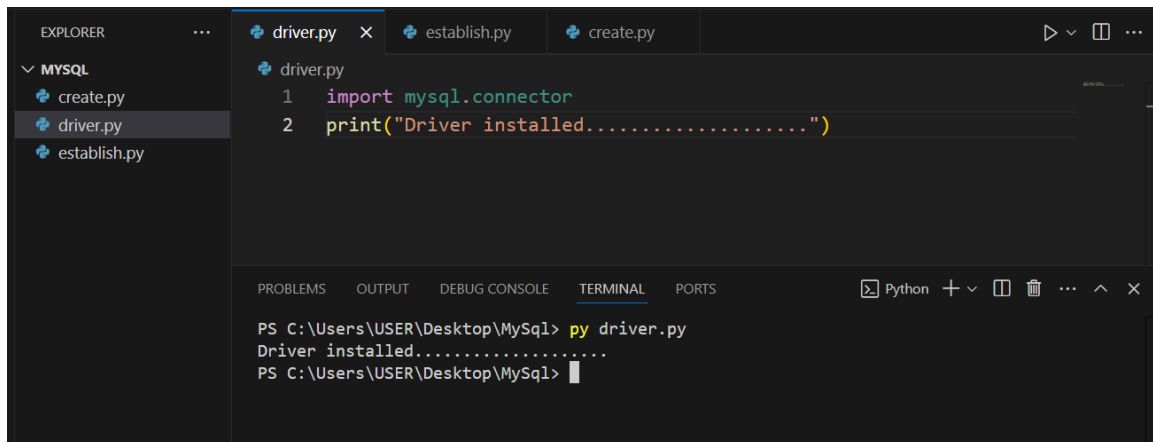
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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| learincoding |
| mysql |
| performance_schema |
| raihan |
| sys |
+-----+
6 rows in set (0.03 sec)
```

I have to check if my driver is installed or not?



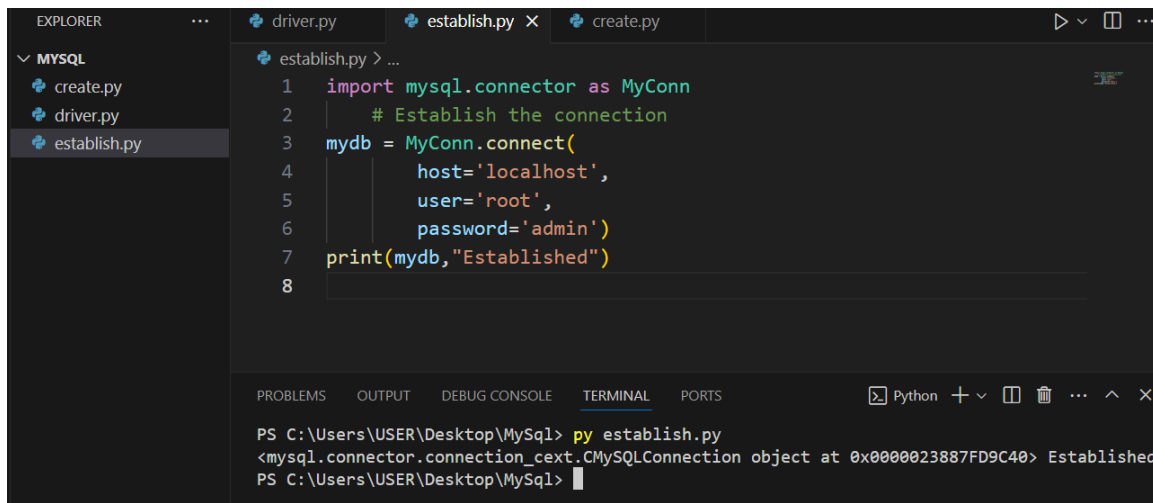
The screenshot shows a Visual Studio Code editor with three files open: driver.py, establish.py, and create.py. The Explorer sidebar on the left shows a folder named 'MYSQL' containing these three files. The 'driver.py' file is selected and its content is visible in the editor. The code in driver.py consists of two lines: `import mysql.connector` and `print("Driver installed.....")`. Below the editor, the TERMINAL panel is active, showing the command `py driver.py` being executed in a PowerShell prompt. The output of the command is `Driver installed.....`.

```
EXPLORER  ...
  MYSQL
  create.py
  driver.py
  establish.py

driver.py
1 import mysql.connector
2 print("Driver installed.....")

TERMINAL
Python
PS C:\Users\USER\Desktop\MySql> py driver.py
Driver installed.....
PS C:\Users\USER\Desktop\MySql>
```

Have to check my connection is established or not?



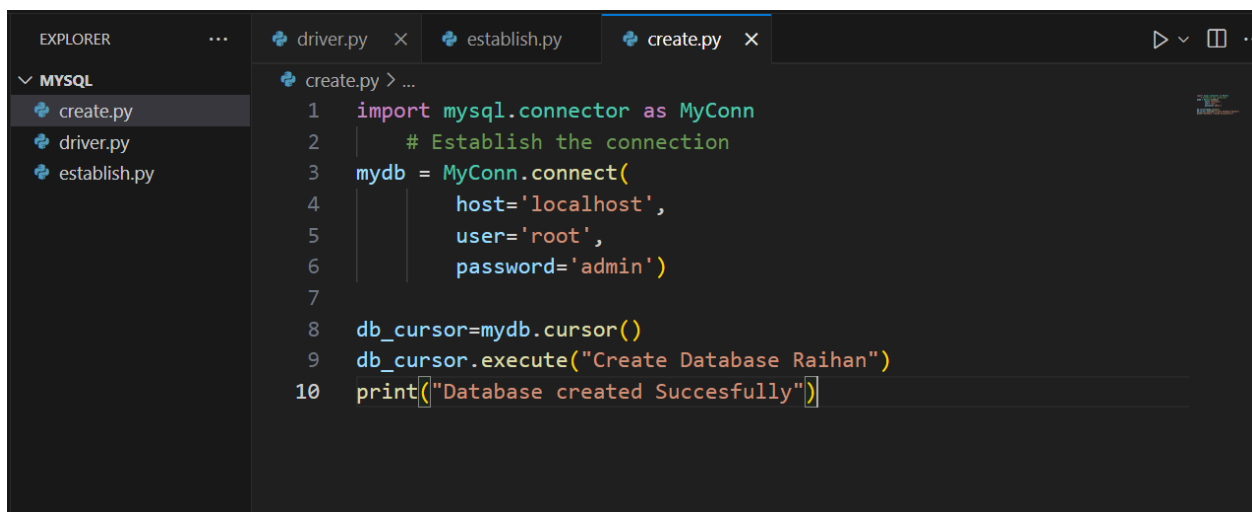
The screenshot shows the Visual Studio Code editor with the 'establish.py' file selected. The code in establish.py is as follows: `import mysql.connector as MyConn`, `# Establish the connection`, `mydb = MyConn.connect(host='localhost', user='root', password='admin')`, and `print(mydb, "Established")`. The TERMINAL panel shows the command `py establish.py` being executed. The output is `<mysql.connector.connection_cext.CMySQLConnection object at 0x0000023887FD9C40> Established`.

```
EXPLORER  ...
  MYSQL
  create.py
  driver.py
  establish.py

establish.py > ...
1 import mysql.connector as MyConn
2 # Establish the connection
3 mydb = MyConn.connect(
4     host='localhost',
5     user='root',
6     password='admin')
7 print(mydb, "Established")
8

TERMINAL
Python
PS C:\Users\USER\Desktop\MySql> py establish.py
<mysql.connector.connection_cext.CMySQLConnection object at 0x0000023887FD9C40> Established
PS C:\Users\USER\Desktop\MySql>
```

It's time to create database.



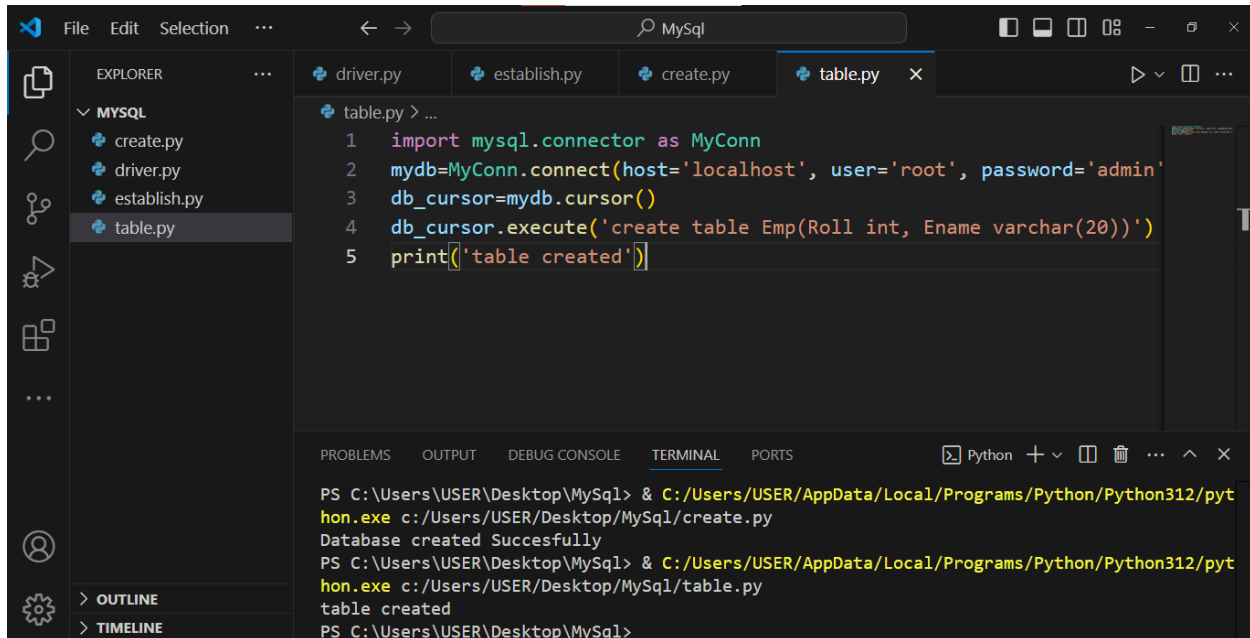
The screenshot shows the Visual Studio Code editor with the 'create.py' file selected. The code in create.py is as follows: `import mysql.connector as MyConn`, `# Establish the connection`, `mydb = MyConn.connect(host='localhost', user='root', password='admin')`, `db_cursor=mydb.cursor()`, `db_cursor.execute("Create Database Raihan")`, and `print("Database created Succesfully")`. The Explorer sidebar on the left shows the 'MYSQL' folder containing create.py, driver.py, and establish.py.

```
EXPLORER  ...
  MYSQL
  create.py
  driver.py
  establish.py

create.py > ...
1 import mysql.connector as MyConn
2 # Establish the connection
3 mydb = MyConn.connect(
4     host='localhost',
5     user='root',
6     password='admin')
7
8 db_cursor=mydb.cursor()
9 db_cursor.execute("Create Database Raihan")
10 print("Database created Succesfully")
```

Now we will add table into the databases.

We will add this table to our specific database in connection line using adding a extra line at line 2, which is "database='Learincoding'"

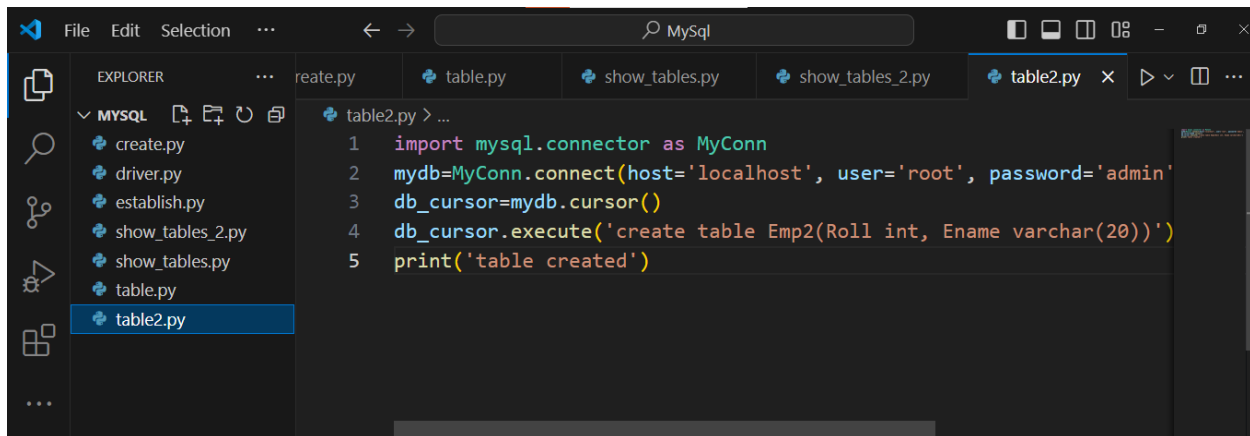


The screenshot shows the Visual Studio Code interface with a MySQL project. The Explorer panel on the left shows a folder named 'MYSQL' containing files: 'create.py', 'driver.py', 'establish.py', and 'table.py'. The 'table.py' file is selected and its content is displayed in the editor. The code in 'table.py' is as follows:

```
1 import mysql.connector as MyConn
2 mydb=MyConn.connect(host='localhost', user='root', password='admin', database='Learincoding')
3 db_cursor=mydb.cursor()
4 db_cursor.execute('create table Emp(Roll int, Ename varchar(20))')
5 print('table created')
```

The Terminal panel at the bottom shows the execution of the code. It displays the command prompt 'PS C:\Users\USER\Desktop\MySQL>' and the execution of 'C:/Users/USER/AppData/Local/Programs/Python/Python312/python.exe c:/Users/USER/Desktop/MySQL/create.py', which results in 'Database created Successfully'. Then, it shows the execution of 'C:/Users/USER/AppData/Local/Programs/Python/Python312/python.exe c:/Users/USER/Desktop/MySQL/table.py', which results in 'table created'.

Table 2 created.



The screenshot shows the Visual Studio Code interface with a MySQL project. The Explorer panel on the left shows a folder named 'MYSQL' containing files: 'create.py', 'driver.py', 'establish.py', 'show\_tables\_2.py', 'show\_tables.py', 'table.py', and 'table2.py'. The 'table2.py' file is selected and its content is displayed in the editor. The code in 'table2.py' is as follows:

```
1 import mysql.connector as MyConn
2 mydb=MyConn.connect(host='localhost', user='root', password='admin', database='Learincoding')
3 db_cursor=mydb.cursor()
4 db_cursor.execute('create table Emp2(Roll int, Ename varchar(20))')
5 print('table created')
```

Now we want to show the tables.

The screenshot shows the Visual Studio Code interface. The Explorer sidebar on the left displays a project structure with a folder named 'MYSQL' containing several Python files: 'create.py', 'driver.py', 'establish.py', 'show\_tables\_2.py', 'show\_tables.py' (which is selected), 'table.py', and 'table2.py'. The main editor area has the 'show\_tables.py' file open, showing the following Python code:

```
1 import mysql.connector as MyConn
2 mydb=MyConn.connect(host='localhost', user='root', password='admin')
3 db_cursor=mydb.cursor()
4 db_cursor.execute('show tables')
5 for i in db_cursor:
6     print(i)
```

At the bottom of the window is the TERMINAL panel. It shows the command prompt running the script:

```
PS C:\Users\USER\Desktop\MySql> & C:/Users/USER/AppData/Local/Programs/Python/Python312/python.exe c:/Users/USER/Desktop/MySql/show_tables.py
('emp',)
('emp2',)
PS C:\Users\USER\Desktop\MySql>
```

## Insert Record

```
1 import mysql.connector as MyConn
2 mydb=MyConn.connect(host='localhost', user='root', password='admin')
3 db_cursor=mydb.cursor()
4 db_cursor.execute("insert into Emp(Roll,Ename) values(%s,%s)",
5                   (20,"Raihan"))
6 mydb.commit()
7 print(db_cursor.rowcount,"Record Inserted")
```

mysql.connector.errors.ProgrammingError: 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '%s,%s) (20,"Raihan")' at line 1

PS C:\Users\USER\Desktop\MySQL> & C:/Users/USER/AppData/Local/Programs/Python/Python312/python.exe c:/Users/USER/Desktop/MySQL/insert.py

1 Record Inserted

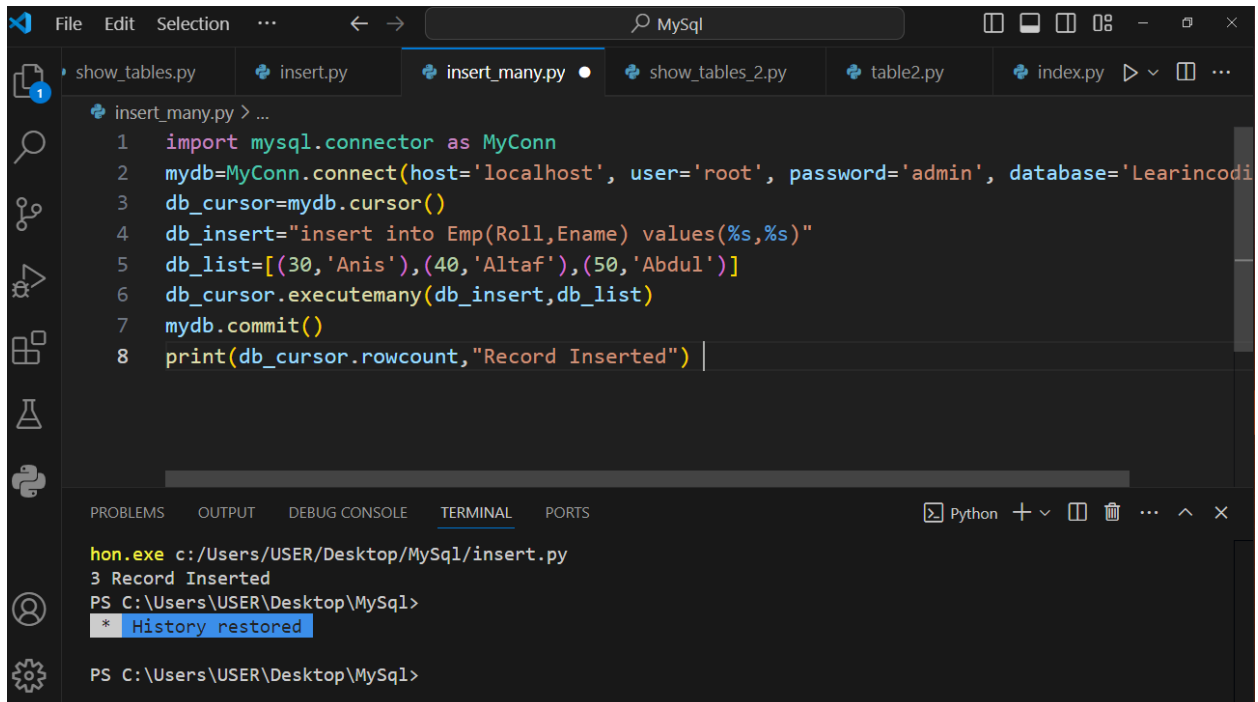
PS C:\Users\USER\Desktop\MySQL>

Show record from database.

Select \* from learincoding.Emp;

```
mysql> select * from learincoding.Emp;
+-----+-----+
| Roll | Ename |
+-----+-----+
| 20   | Raihan |
+-----+-----+
1 row in set (0.01 sec)
```

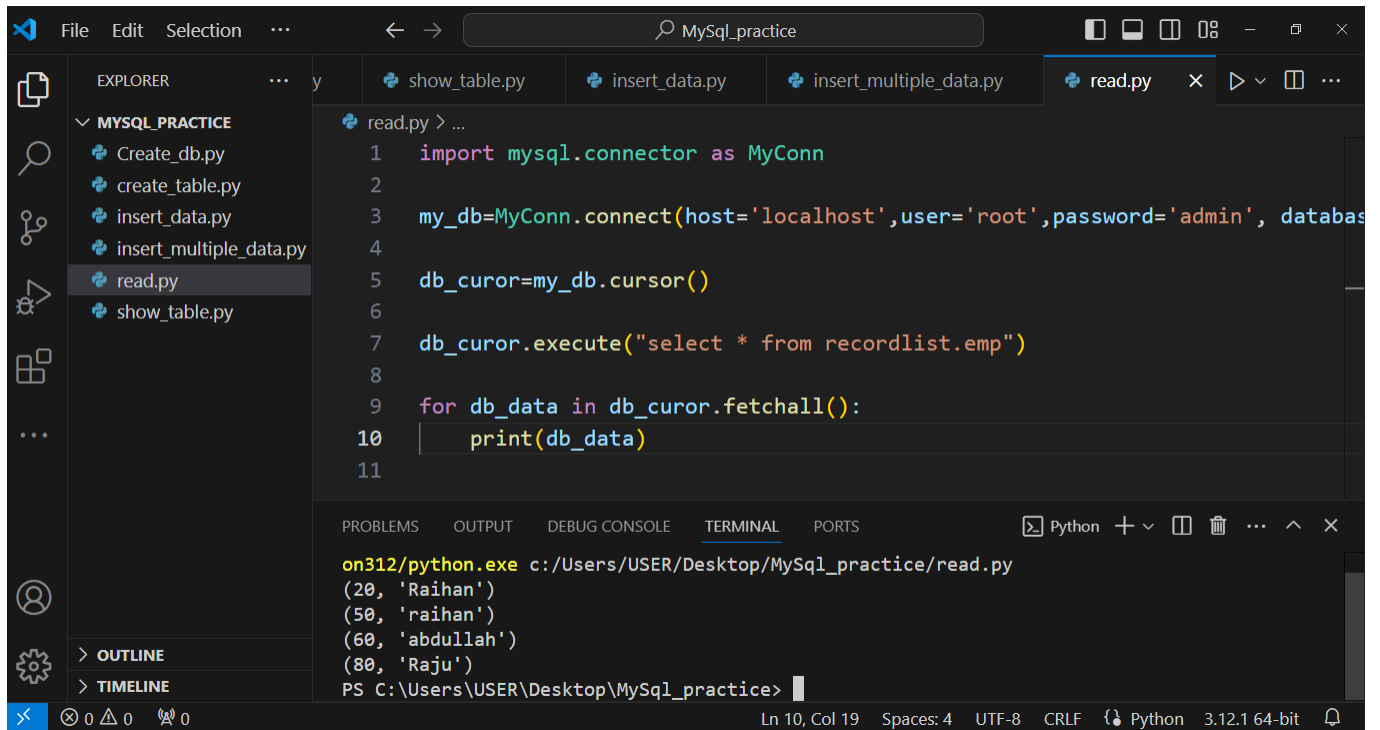
Insert multiple records in the table.



```
File Edit Selection ... MySQL
show_tables.py insert.py insert_many.py show_tables_2.py table2.py index.py
insert_many.py > ...
1 import mysql.connector as MyConn
2 mydb=MyConn.connect(host='localhost', user='root', password='admin', database='Learincodi
3 db_cursor=mydb.cursor()
4 db_insert="insert into Emp(Roll,Ename) values(%s,%s)"
5 db_list=[(30,'Anis'),(40,'Altaf'),(50,'Abdul')]
6 db_cursor.executemany(db_insert,db_list)
7 mydb.commit()
8 print(db_cursor.rowcount,"Record Inserted") |

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
hon.exe c:/Users/USER/Desktop/MySQL/insert.py
3 Record Inserted
PS C:\Users\USER\Desktop\MySQL>
* History restored
PS C:\Users\USER\Desktop\MySQL>
```

For reading the data.



The screenshot shows a Visual Studio Code editor window titled 'MySQL\_practice'. The Explorer sidebar on the left displays a project named 'MYSQL\_PRACTICE' with the following files: 'Create\_db.py', 'create\_table.py', 'insert\_data.py', 'insert\_multiple\_data.py', 'read.py' (selected), and 'show\_table.py'. The main editor area shows the code for 'read.py':

```
read.py > ...
1  import mysql.connector as MyConn
2
3  my_db=MyConn.connect(host='localhost',user='root',password='admin', databas
4
5  db_curor=my_db.cursor()
6
7  db_curor.execute("select * from recordlist.emp")
8
9  for db_data in db_curor.fetchall():
10     print(db_data)
11
```

Below the code editor is a terminal window. The terminal shows the command prompt 'PS C:\Users\USER\Desktop\MySQL\_practice>' and the output of the script:

```
on312/python.exe c:/Users/USER/Desktop/MySQL_practice/read.py
(20, 'Raihan')
(50, 'raihan')
(60, 'abdullah')
(80, 'Raju')
```

The status bar at the bottom indicates the current line and column (Ln 10, Col 19), the number of spaces (Spaces: 4), the encoding (UTF-8), the line ending (CRLF), the interpreter (Python 3.12.1 64-bit), and a bell icon for notifications.

Update Record:

Delete specific row Record:

```
delete.py > ...
1  import mysql.connector as MyConn
2
3  my_db = MyConn.connect(
4      host='localhost',
5      user='root',
6      password='admin',
7      database='recordlist')
8  db_cursor = my_db.cursor()
9
10 db_deletedata = 'DELETE FROM recordlist.emp WHERE Ename = %s'
11 db_value = ('Raihan',)
12 db_cursor.execute(db_deletedata, db_value)
13 my_db.commit()
14
15 print(db_cursor.rowcount, "Record(s) Deleted")
16
17
```

For deleting all row:

Truncate table recordlist.emp;

```
j_delete_all.py > ...
1  import mysql.connector as MyConn
2
3  my_db = MyConn.connect(
4      host='localhost',
5      user='root',
6      password='admin',
7      database='recordlist')
8  db_cursor = my_db.cursor()
9
10 db_deletedata = 'truncate table Learincoding.emp'
11
12 db_cursor.execute(db_deletedata)
13
14 my_db.commit()
15
16 print("All Information Deleted")
```