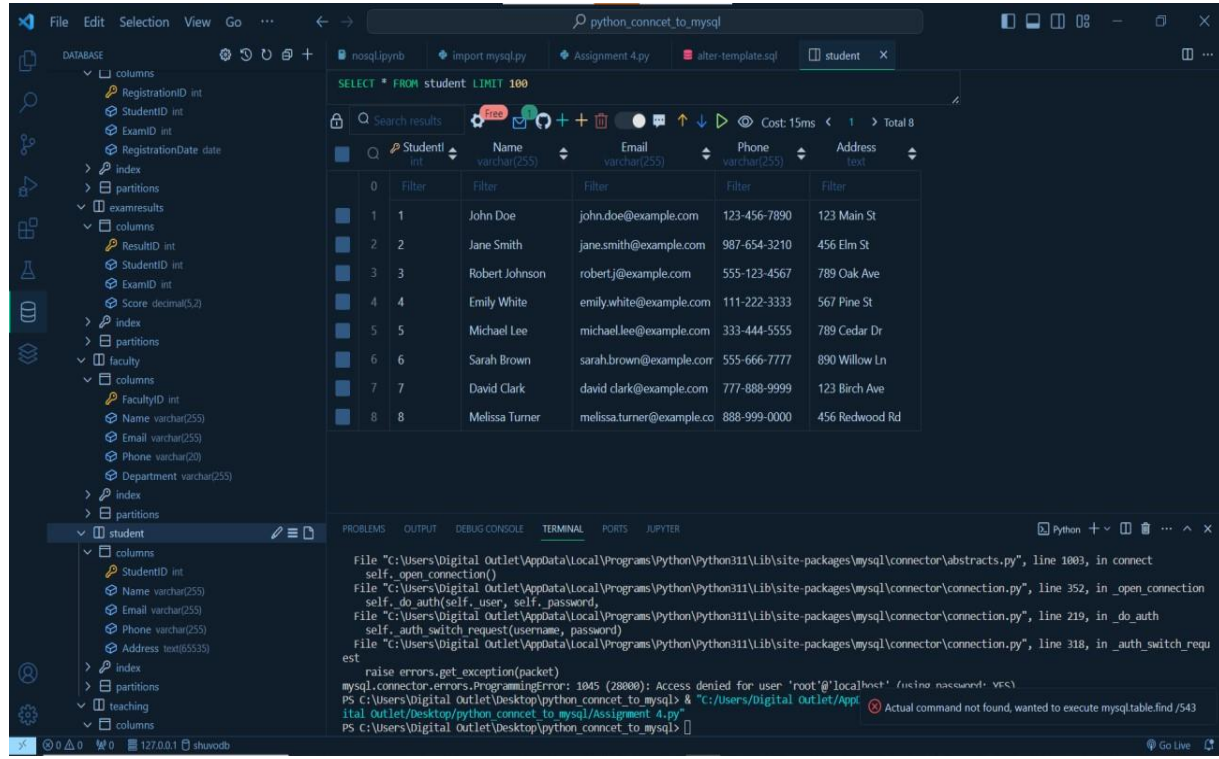


## Connecting the database

```
import mysql.connector # Connect to the MySQL server conn =  
mysql.connector.connect(host='localhost', user='root',  
password='shuvo634', database='shuvodb') mycursor =  
conn.cursor()
```

## Table No-1 (Student Table)

```
Insert_1 = '''  
INSERT INTO Student(StudentID,Name,Email,Phone,Address)  
VALUES (1,"John Doe", "john.doe@example.com", "123-456-7890", "123 Main St"), (2,  
"Jane Smith", "jane.smith@example.com", "987-654-3210", "456 Elm St"),  
(3, "Robert Johnson", "robert.j@example.com", "555-123-4567", "789 Oak Ave"),  
(4, "Emily White", "emily.white@example.com", "111-222-3333", "567 Pine St"),  
(5, "Michael Lee", "michael.lee@example.com", "333-444-5555", "789 Cedar Dr"),  
(6, "Sarah Brown", "sarah.brown@example.com", "555-666-7777", "890 Willow Ln"),  
(7, "David Clark", "david.clark@example.com", "777-888-9999", "123 Birch Ave"),  
(8, "Melissa Turner", "melissa.turner@example.com", "888-999-0000", "456 Redwood  
Rd");  
'''
```



**Table No-2 (Course Table)**

## MySQL Code

```
Insert_2 = '''
INSERT INTO Course (CourseID, CourseName, Credits)
VALUES (101, "Mathematics" ,3),
(102, "History", 4),
(103, "Computer science",3),
(104, "Literature",3),
(105, "Chemistry", 4),
(106, "Physics", 4),
(107, "Economics",3),
(108, "Biology", 4);
'''
```

## Data insertion in the Table No : 03 (Exam Table)

### MySQL Code

```
Insert_3 = '''
INSERT INTO Exam(ExamID, ExamDate, ExamTime, Location)
VALUES (201, "2023-11-10", "09:00:00", "Exam Hall A"),
(202, "2023-11-12", "14:00:00", "Exam Hall B"),
(203, "2023-11-15", "10:30:00", "Exam Hall C"),
(204, "2023-11-18", "15:15:00", "Exam Hall D"),
(205, "2023-11-20", "13:00:00", "Exam Hall E"); '''
```

The screenshot displays a database management tool interface. On the left, a tree view shows the database structure, including tables like 'course', 'enrollment', 'exam', 'examregistration', 'examresults', 'faculty', and 'partitions'. The 'exam' table is selected. The main window shows a SQL query: `SELECT * FROM exam LIMIT 100`. Below the query, a table view displays the data for the 'exam' table. The table has four columns: ExamID, ExamDate, ExamTime, and Location. The data rows are:

ExamID	ExamDate	ExamTime	Location
201	2023-11-10	09:00:00	Exam Hall A
202	2023-11-12	14:00:00	Exam Hall B
203	2023-11-15	10:30:00	Exam Hall C
204	2023-11-18	15:15:00	Exam Hall D
205	2023-11-20	13:00:00	Exam Hall E

The terminal window at the bottom shows an error message: `mysql.connector.errors.ProgrammingError: 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)`. The command prompt shows the user is running a Python script to connect to the MySQL database.

## Table No-4 (Faculty Table)

### MySQL Code

```
Insert_4 = '''
INSERT INTO Faculty(FacultyID, Name, Email, Phone, Department)
VALUES (301, "Dr. Smith", "smith@example.com", "111-222-3333", "Mathematics"),
(302, "Prof. Johnson", "johnson@example.com", "444-555-6666", "History"),
(303, "Prof. Brown", "brown@example.com", "777-888-9999", "Computer Science"),
(304, "Dr. Parker", "parker@example.com", "888-777-6666", "Chemistry"), (305,
"Prof. Adams", "adams@example.com", "999-888-7777", "Physics"),
(306, "Dr. Wilson", "wilson@example.com", "555-444-3333", "Economics"),
(307, "Prof. Davis", "davis@example.com", "333-222-1111", "Biology"),
(308, "Dr. Turner", "turner@example.com", "222-333-4444", "Literature"); '''
```

The screenshot displays a MySQL database interface with a dark theme. On the left, a sidebar shows the database structure, including tables like 'StudentID', 'ExamID', 'RegistrationDate', 'index', 'partitions', 'examresults', 'columns', 'ResultID', 'StudentID', 'ExamID', 'Score', 'index', 'partitions', 'No data found!', 'faculty', 'student', 'columns', 'TeachingID', 'FacultyID', 'CourseID', 'index', 'partitions', 'Views', 'Procedures', 'Functions', and 'testdb'. The main window shows a query result for the 'faculty' table, displaying 8 rows of data. The columns are FacultyID, Name, Email, Phone, and Department. The data is as follows:

FacultyID	Name	Email	Phone	Department
301	Dr. Smith	smith@example.com	111-222-3333	Mathematics
302	Prof. Johnson	johnson@example.com	444-555-6666	History
303	Prof. Brown	brown@example.com	777-888-9999	Computer Science
304	Dr. Parker	parker@example.com	888-777-6666	Chemistry
305	Prof. Adams	adams@example.com	999-888-7777	Physics
306	Dr. Wilson	wilson@example.com	555-444-3333	Economics
307	Prof. Davis	davis@example.com	333-222-1111	Biology
308	Dr. Turner	turner@example.com	222-333-4444	Literature

At the bottom, a terminal window shows the execution of a Python script that connects to the MySQL database. The script is located at 'C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\abstracts.py'. The terminal output shows the script running successfully, with a message indicating that the command 'mysql.connector.errors.ProgrammingError: 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)' was executed.

## Table No-5 (Enrollment Table)

### MySQL Code

```
Insert_5 = '''
INSERT INTO Enrollment (EnrollmentID, StudentID, CourseID, EnrollmentDate)
VALUES (1, 1, 101, "2023-09-01"),
(2, 1, 102, "2023-09-10"),
(3, 2, 101, "2023-09-02"),
(4, 3, 103, "2023-09-03"),
(5, 4, 104, "2023-09-04"),
(6, 5, 105, "2023-09-05"),
(7, 6, 106, "2023-09-06"),
(8, 7, 107, "2023-09-07"),
(9, 8, 108, "2023-09-08");
'''
```

The screenshot displays a MySQL IDE interface. On the left, the 'DATABASE' pane shows a tree view of the database structure, including tables like 'enrollment', 'exam', 'examregistration', 'faculty', 'student', and 'teaching'. The 'enrollment' table is selected, and its columns (EnrollmentID, StudentID, CourseID, EnrollmentDate) are visible. The main window shows a query result for 'SELECT \* FROM enrollment LIMIT 100', displaying a table with 9 rows of data. The bottom pane shows the 'TERMINAL' window with error messages related to the MySQL connector, including 'Access denied for user 'root'@'localhost'' and 'Actual command not found, wanted to execute mysql.table.find /733'.

EnrollmentID	StudentID	CourseID	EnrollmentDate
1	1	101	2023-09-01
2	1	102	2023-09-10
3	2	101	2023-09-02
4	3	103	2023-09-03
5	4	104	2023-09-04
6	5	105	2023-09-05
7	6	106	2023-09-06
8	7	107	2023-09-07
9	8	108	2023-09-08

## Table No-6 (Teaching Table)

### MySQL Code

```
Insert_6 = """
INSERT INTO Teaching (TeachingID, FacultyID, CourseID)
VALUES (1, 301, 101),
(2, 302, 102),
(3, 303, 103),
(4, 304, 104),
(5, 305, 105),
(6, 306, 106),
(7, 307, 107),
(8, 308, 108);
"""
```

The screenshot displays a Jupyter Notebook environment with a dark theme. The top section shows a code cell with a MySQL INSERT statement for the 'Teaching' table. Below the code, the 'teaching' table is visualized as a table with 8 rows and 3 columns: TeachingID, FacultyID, and CourseID. The bottom section shows the terminal output, which includes a connection error message: 'Access denied for user 'root'@'localhost' (using password: YES)'.

Database structure (Left Panel):

- course
  - enrollment
  - exam
  - examregistration
    - columns
      - RegistrationID int
      - StudentID int
      - ExamID int
      - RegistrationDate date
    - index
    - partitions
  - examresults
    - columns
      - ResultID int
      - StudentID int
      - ExamID int
      - Score decimal(5,2)
    - index
    - partitions
  - faculty
  - student
    - columns
      - StudentID int
      - Name varchar(255)
      - Email varchar(255)
      - Phone varchar(255)
      - Address text(65535)
    - index
    - partitions
  - teaching- Views
- Procedures
- Functions
- testdb

Query Results (Table):

TeachingID	FacultyID	CourseID
1	301	101
2	302	102
3	303	103
4	304	104
5	305	105
6	306	106
7	307	107
8	308	108

Terminal Output:

```
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\abstracts.py", line 1003, in connect
self._open_connection()
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\connection.py", line 352, in _open_connection
self._do_auth(self._user, self._password,
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\connection.py", line 219, in _do_auth
self._auth_switch_request(username, password)
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\connection.py", line 318, in _auth_switch_request
raise errors.get_exception(packet)
mysql.connector.errors.ProgrammingError: 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)
PS C:\Users\Digital Outlet\Desktop\python_connect_to_mysql> "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\connection.py", line 219, in _do_auth
self._auth_switch_request(username, password)
PS C:\Users\Digital Outlet\Desktop\python_connect_to_mysql> Assignment 4.py
PS C:\Users\Digital Outlet\Desktop\python_connect_to_mysql>
```



### Screenshot

**Table No-7 (ExamRegistration Table)**

### MySQL Code

```
Insert_7 = '''
INSERT INTO ExamRegistration (RegistrationID, StudentID, ExamID,
RegistrationDate)
VALUES (101, 1, 201, "2023-10-15"),
(102, 2, 201, "2023-10-16"),
(103, 3, 202, "2023-10-17"),
(104, 4, 203, "2023-10-18"),
(105, 5, 204, "2023-10-19"),
(106, 6, 205, "2023-10-20"),
(107, 7, 201, "2023-10-21"),
(108, 8, 202, "2023-10-22"); '''
```

The screenshot shows a VS Code window with a MySQL database connection. The left sidebar displays the database structure, including tables like 'course', 'enrollment', 'exam', 'examregistration', 'examresults', 'columns', 'index', 'partitions', 'faculty', 'student', and 'testdb'. The main editor area shows a SQL query: `SELECT * FROM examregistration LIMIT 100`. Below the query, a table view displays the results of the query, showing columns: RegistrationID, StudentID, ExamID, and RegistrationDate. The table contains 10 rows of data. The bottom panel shows the 'TERMINAL' output, displaying the execution of the SQL query and the resulting table structure.

	RegistrationID int	StudentID int	ExamID int	RegistrationDate date
0	Filter	Filter	Filter	Filter
1	101	1	201	2023-10-15
2	102	2	201	2023-10-16
3	103	3	202	2023-10-17
4	104	4	203	2023-10-18
5	105	5	204	2023-10-19
6	106	6	205	2023-10-20
7	107	7	201	2023-10-21
8	108	8	202	2023-10-22

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS JUPYTER

```
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\abstracts.py", line 1003, in connect
self._open_connection()
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\connection.py", line 352, in _open_connection
self._do_auth(self._user, self._password)
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\connection.py", line 219, in _do_auth
self._auth_switch_request(username, password)
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\errors.py", line 1003, in raise_errors_get_exception(packet)
raise errors.get_exception(packet)
mysql.connector.errors.ProgrammingError: 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)
PS C:\Users\Digital Outlet\Desktop\python connect to mysql> "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\connection.py", line 219, in _do_auth
self._auth_switch_request(username, password)
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\errors.py", line 1003, in raise_errors_get_exception(packet)
raise errors.get_exception(packet)
mysql.connector.errors.ProgrammingError: 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)
PS C:\Users\Digital Outlet\Desktop\python connect to mysql> "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\connection.py", line 219, in _do_auth
self._auth_switch_request(username, password)
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\errors.py", line 1003, in raise_errors_get_exception(packet)
raise errors.get_exception(packet)
mysql.connector.errors.ProgrammingError: 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)
PS C:\Users\Digital Outlet\Desktop\python connect to mysql>
```

## Screenshot

### Table No-8 (ExamResults Table)

#### MySQL Code

```
Insert_8 = """
INSERT INTO ExamResults (ResultID, StudentID, ExamID, score)
VALUES (501, 1, 201, 92.5),
(502, 2, 201, 88.0),
(503, 3, 202, 95.5),
(504, 4, 203, 89.0),
(505, 5, 204, 94.5),
(506, 6, 205, 91.0),
(507, 7, 201, 87.5);
"""
```

The screenshot displays a MySQL database interface. On the left, the 'DATABASE' sidebar shows a tree view with 'Tables (8)' expanded, listing 'course', 'enrollment', 'exam', 'examregistration', 'examresults', 'faculty', 'student', and 'columns'. The 'examresults' table is selected. The main area shows a query: `SELECT * FROM examresults LIMIT 100`. Below the query, a table displays the results:

	ResultID	StudentID	ExamID	Score
0	Filter	Filter	Filter	Filter
1	501	1	201	92.50
2	502	2	201	88.00
3	503	3	202	95.50
4	504	4	203	89.00
5	505	5	204	94.50
6	506	6	205	91.00
7	507	7	201	87.50

At the bottom, the 'TERMINAL' window shows an error message:

```
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\abstracts.py", line 1003, in connect
self._open_connection()
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\connection.py", line 352, in _open_connection
self._do_auth(self._user, self._password)
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\connection.py", line 219, in _do_auth
self._auth_switch_request(username, password)
File "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\connection.py", line 318, in _auth_switch_request
raise errors.get_exception(packet)
mysql.connector.errors.ProgrammingError: 1045 (28000): Access denied for user 'root'@'local[host]' (using password: YES)
PS C:\Users\Digital Outlet\Desktop\python_connect_to_mysql> & "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\python.exe" "C:\Users\Digital Outlet\Desktop\python_connect_to_mysql\Assignment 4.py"
PS C:\Users\Digital Outlet\Desktop\python_connect_to_mysql>
```



---

## Screenshot

### Executing the Table

#### MySQL Code

```
# Execute the SQL query
mycursor.execute(Insert_1)
mycursor.execute(Insert_2)
mycursor.execute(Insert_3)
mycursor.execute(Insert_4)
mycursor.execute(Insert_5)
mycursor.execute(Insert_6)
mycursor.execute(Insert_7)
mycursor.execute(Insert_8) #
Commit the changes
conn.commit()
# Close the connection
conn.close()
```

## MySQL Full Code

```
import mysql.connector # Connect to the MySQL server conn =
mysql.connector.connect(host='localhost', user='root',
password='shuvo634', database='shuvodb') mycursor =
conn.cursor()
# Define the SQL query to create the table
Insert_1 = '''
INSERT INTO Student(StudentID,Name,Email,Phone,Address)
VALUES (1,"John Doe", "john.doe@example.com", "123-456-7890", "123 Main St"), (2,
"Jane Smith", "jane.smith@example.com", "987-654-3210", "456 Elm St"),
(3, "Robert Johnson", "robert.j@example.com", "555-123-4567", "789 Oak Ave"),
(4, "Emily White", "emily.white@example.com", "111-222-3333", "567 Pine St"),
(5, "Michael Lee", "michael.lee@example.com", "333-444-5555", "789 Cedar Dr"),
(6, "Sarah Brown", "sarah.brown@example.com", "555-666-7777", "890 Willow Ln"),
(7, "David Clark", "david.clark@example.com", "777-888-9999", "123 Birch Ave"),
(8, "Melissa Turner", "melissa.turner@example.com", "888-999-0000", "456 Redwood
Rd");
'''

Insert_2 = '''
INSERT INTO Course (CourseID, CourseName, Credits)
VALUES (101, "Mathematics" ,3),
(102, "History", 4),
(103, "Computer science",3),
(104, "Literature",3),
(105, "Chemistry", 4),
(106, "Physics", 4),
(107, "Economics",3),
(108, "Biology", 4);
'''

Insert_3 = '''
INSERT INTO Exam(ExamID, ExamDate, ExamTime, Location)
VALUES (201, "2023-11-10", "09:00:00", "Exam Hall A"),
(202, "2023-11-12", "14:00:00", "Exam Hall B"),
(203, "2023-11-15", "10:30:00", "Exam Hall C"),
(204, "2023-11-18", "15:15:00", "Exam Hall D"),
(205, "2023-11-20", "13:00:00", "Exam Hall E");
'''

Insert_4 = '''
```

```
INSERT INTO Faculty(FacultyID, Name, Email, Phone, Department)
VALUES (301, "Dr. Smith", "smith@example.com", "111-222-3333", "Mathematics"),
(302, "Prof. Johnson" ,"johnson@example.com", "444-555-6666", "History"),
```

```

(502, 2, 201, 88.0),
(503, 3, 202, 95.5),
(504, 4, 203, 89.0),
(505, 5, 204, 94.5),
(506, 6, 205, 91.0),
(507, 7, 201, 87.5);
"""

# Execute the SQL query
mycursor.execute(Insert_1)
mycursor.execute(Insert_2)
mycursor.execute(Insert_3)
mycursor.execute(Insert_4)
mycursor.execute(Insert_5)
mycursor.execute(Insert_6)
mycursor.execute(Insert_7)
mycursor.execute(Insert_8) #
Commit the changes
conn.commit()
# Close the connection
conn.close()

```

```

Insert_6 =
INSERT INTO Teaching (TeachingID, FacultyID, CourseID)
VALUES (1, 301, 101),
(2, 302, 102),
(3, 303, 103),
(4, 304, 104),
(5, 305, 105),
(6, 306, 106),
(7, 307, 107),
(8, 308, 108);
"""

Insert_7 = '''
INSERT INTO ExamRegistration (RegistrationID, StudentID, ExamID,
RegistrationDate)
VALUES (101, 1, 201, "2023-10-15"),
(102, 2, 201, "2023-10-16"),
(103, 3, 202, "2023-10-17"),
(104, 4, 203, "2023-10-18"),
(105, 5, 204, "2023-10-19"),
(106, 6, 205, "2023-10-20"),
(107, 7, 201, "2023-10-21"),
(108, 8, 202, "2023-10-22");
'''

Insert_8 = """
INSERT INTO ExamResults (ResultID, StudentID, ExamID, score)
VALUES (501, 1, 201, 92.5),

```



