

National Institute of Technology Meghalaya



Assignment No: 04

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Programme: Master of Technology

Department: Computer Science & Engineering

Semester: 1

Course Name: ADVANCED DBMS LAB

Course Code: CS553

Assignment 04

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()
```

Data insertion in the Table No : 01 (Student Table)

SQL Code

```
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");
'''
```

Screenshot

Database: student

StudentID	Name	Email	Phone	Address
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

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)
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)
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>
```

Data insertion in the Table No : 02 (Course Table)

SQL 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);
'''
```

Screenshot

The screenshot shows a Jupyter Notebook interface with a dark theme. The top bar displays the file name 'python_connctet_to_mysql'. The left sidebar shows a database explorer with a tree view of tables and columns. The main area displays a SQL query: `SELECT * FROM course LIMIT 100`. Below the query, a table of results is shown with columns 'CourseID', 'CourseName', and 'Credits'. The table contains 8 rows of data. The bottom panel shows the terminal output, which includes a Python traceback and a MySQL error message: 'Access denied for user 'root'@'localhost' (using password: YES)'.

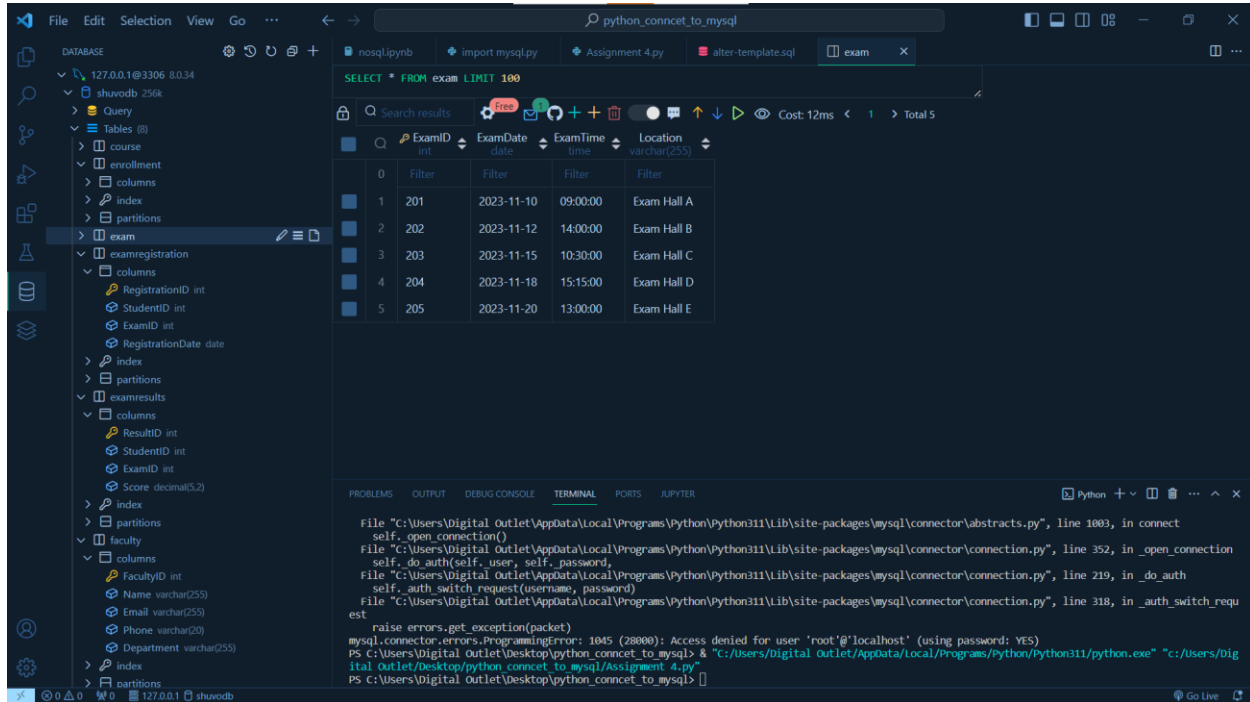
CourseID	CourseName	Credits
0	Filter	Filter
1	101	Mathematics
2	102	History
3	103	Computer science
4	104	Literature
5	105	Chemistry
6	106	Physics
7	107	Economics
8	108	Biology

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

SQL 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");
'''
```

Screenshot

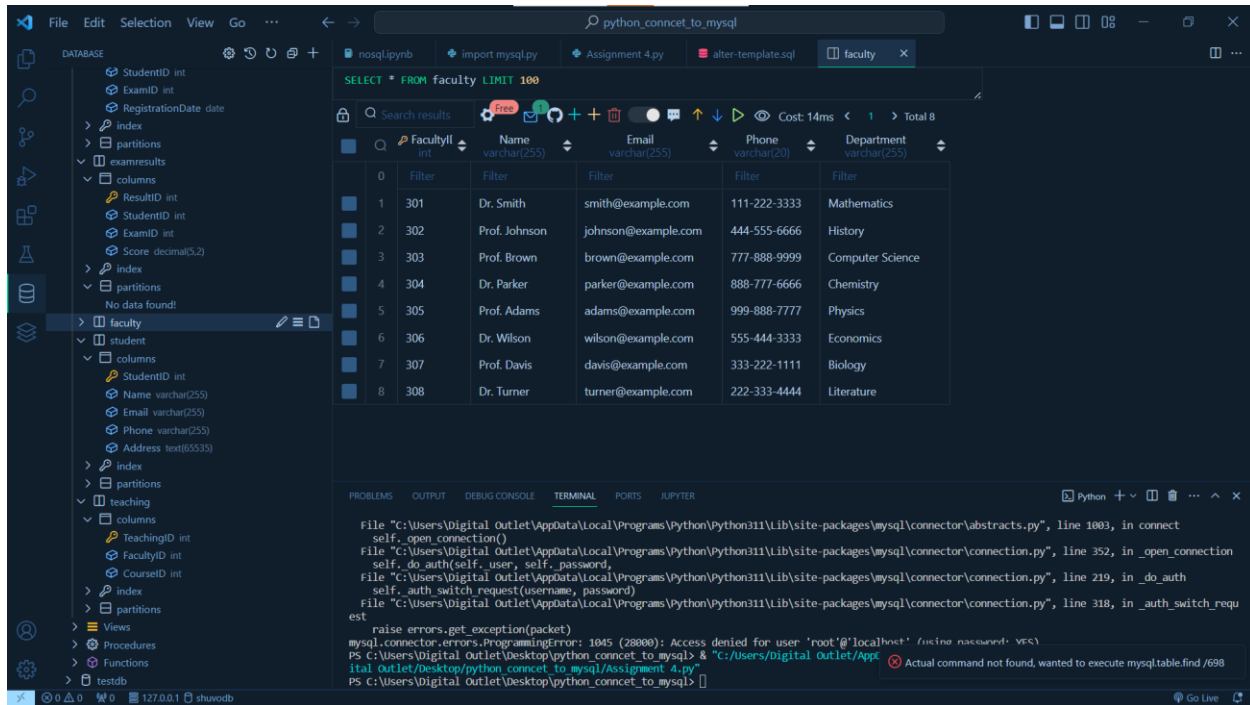


Data insertion in the Table No : 04 (Faculty Table)

SQL 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");
'''
```

Screenshot



Data insertion in the Table No : 05 (Enrollment Table)

SQL 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");
'''
```

Screenshot

The screenshot displays a database management interface. On the left, a tree view shows the database structure, including tables like 'enrollment', 'exam', 'examregistration', 'examresults', 'faculty', 'student', and 'teaching'. The 'enrollment' table is selected, and its columns (RegistrationID, StudentID, ExamID, RegistrationDate) and index are visible. The main panel shows a SQL query: `SELECT * FROM enrollment LIMIT 100`. Below the query, a table with 9 rows and 5 columns is displayed. The columns are EnrollmentID, StudentID, CourseID, and EnrollmentDate. The data is as follows:

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

The bottom panel shows a terminal with error messages related to a MySQL connection. The errors are:

- 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 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)
- PS C:\Users\Digital Outlet\Desktop\python_connect_to_mysql> PS C:\Users\Digital Outlet\Desktop\python_connect_to_mysql>

Data insertion in the Table No : 06 (Teaching Table)

SQL 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);
"""
```

Screenshot

The screenshot shows a Jupyter Notebook interface with a file explorer on the left, a code editor in the center, and a terminal at the bottom. The file explorer shows a database named 'teaching' with tables like 'course', 'enrollment', 'exam', 'examregistration', 'columns', 'index', 'partitions', 'examresults', 'columns', 'index', 'partitions', 'No data found!', 'faculty', 'student', 'columns', 'StudentID int', 'Name varchar(255)', 'Email varchar(255)', 'Phone varchar(255)', 'Address text(65535)', 'index', 'partitions', 'teaching', 'Views', 'Procedures', 'Functions', and 'testdb'. The code editor shows a SQL query: `SELECT * FROM teaching LIMIT 100`. The terminal shows the output of the query, displaying a table with columns 'TeachingID int', 'FacultyID int', and 'CourseID int'. The table contains 10 rows of data. The terminal also shows the error message: `mysql.connector.errors.ProgrammingError: 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)`.

Data insertion in the Table No : 07 (ExamRegistration Table)

SQL 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");
'''
```


Screenshot

The screenshot shows a Jupyter Notebook window with a file explorer on the left, a query editor in the center, and a terminal at the bottom. The file explorer shows a database named '127.0.0.1@3306' with a table 'examregistration'. The query editor shows a SQL query: `SELECT * FROM examregistration LIMIT 100`. The terminal shows the output of the query, which is a table with 5 columns: RegistrationID, StudentID, ExamID, and RegistrationDate. The table contains 8 rows of data.

	RegistrationID	StudentID	ExamID	RegistrationDate
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

Data insertion in the Table No : 08 (ExamResults Table)

SQL 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);
"""
```

Screenshot

SELECT * FROM examresults LIMIT 100

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

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_connct_to_mysql> & "C:\Users\Digital Outlet\AppData\Local\Programs\Python\Python311\Lib\site-packages\mysql\connector\connection.py", line 318, in _auth_switch_request
PS C:\Users\Digital Outlet\Desktop\python_connct_to_mysql>

Executing the Table

SQL 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()
```

SQL 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"),
```

```
(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");
'''
```

```
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");
'''
```

```
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),
```

```
(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()
```