

# National Institute of Technology Meghalaya



## **Assignment No: 04**

**Student Name:** Subhasish Dutta

**Roll Number:** T23CS001

**Programme:** Master of Technology

**Department:** Computer Science & Engineering

**Semester:** 1

**Course Name:** ADVANCED DBMS LAB

**Course Code:** CS553

## Assignment 04

### Connecting the database

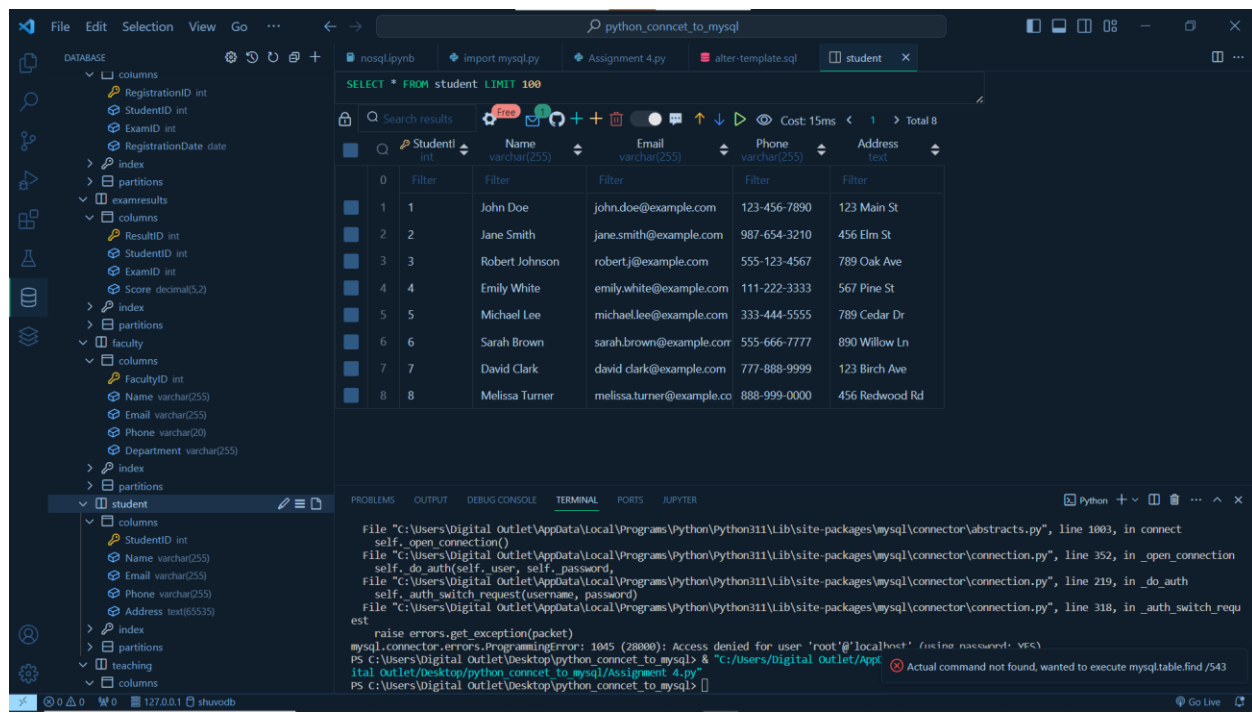
```
import mysql.connector
# Connect to the MySQL server
conn = mysql.connector.connect(host='localhost', user='root',
password='shuvo634',
database='shuvodb')
mycursor = conn.cursor()
```

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

#### MySQL 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



## Data insertion in the Table No : 02 (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);
'''
```

## 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. At the bottom, a terminal window shows the execution of a Python script that connects to a MySQL database. The terminal output includes a warning about a missing command and a message about the actual command not found.

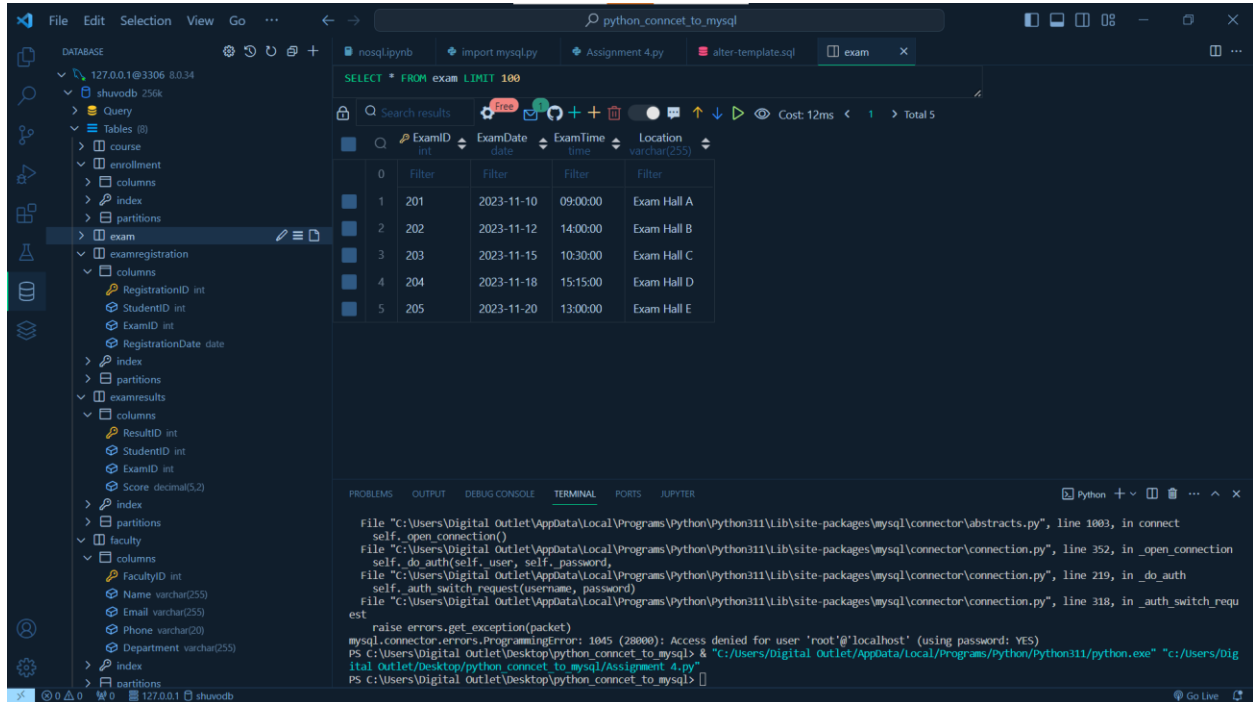
CourseID	CourseName	Credits
0	Filter	Filter
1	101	Mathematics
2	102	History
3	103	Computer science
4	104	Literature
5	105	Chemistry
6	106	Physics
7	107	Economics
8	108	Biology

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

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

## Screenshot



## Data insertion in the Table No : 04 (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");
'''
```

## Screenshot

The screenshot shows a database management tool interface. On the left, a sidebar displays the database structure, including tables like 'StudentID', 'ExamID', 'RegistrationDate', 'examresults', 'faculty', 'student', 'teaching', and 'testdb'. The 'faculty' table is selected. The main area displays a SQL query: `SELECT * FROM faculty LIMIT 100`. Below the query, a table of results is shown with columns: FacultyID, Name, Email, Phone, and Department. The results list 8 faculty members. At the bottom, a terminal window shows an error message: `mysql.connector.errors.ProgrammingError: 1045 (28000): Access denied for user 'root'@'localhost' (using nameless user)`.

FacultyID	Name	Email	Phone	Department
1	Dr. Smith	smith@example.com	111-222-3333	Mathematics
2	Prof. Johnson	johnson@example.com	444-555-6666	History
3	Prof. Brown	brown@example.com	777-888-9999	Computer Science
4	Dr. Parker	parker@example.com	888-777-6666	Chemistry
5	Prof. Adams	adams@example.com	999-888-7777	Physics
6	Dr. Wilson	wilson@example.com	555-444-3333	Economics
7	Prof. Davis	davis@example.com	333-222-1111	Biology
8	Dr. Turner	turner@example.com	222-333-4444	Literature

## Data insertion in the Table No : 05 (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");
'''
```

## Screenshot

The screenshot shows a Jupyter Notebook window with a file named `python_connct_to_mysql`. The notebook contains a SQL query: `SELECT * FROM enrollment LIMIT 100`. The results are displayed in a table with 5 columns: `EnrollmentID` (int), `StudentID` (int), `CourseID` (int), and `EnrollmentDate` (date). The table contains 10 rows of data.

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

The terminal output shows the following error messages:

```
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\
est
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\python.exe" "C:\Users\Digital Outlet\Desktop\python_connct_to_mysql.py"
PS C:\Users\Digital Outlet\Desktop\python_connct_to_mysql>
```

## Data insertion in the Table No : 06 (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);
"""
```

## Screenshot

The screenshot displays a database management interface. On the left, a tree view shows the database structure, including tables like 'course', 'enrollment', 'exam', 'examregistration', 'columns', 'index', 'partitions', 'examresults', 'faculty', 'student', and 'teaching'. The 'teaching' table is selected. The main panel shows the query 'SELECT \* FROM teaching LIMIT 100' and its results. The results are displayed in a table with columns 'TeachingID', 'FacultyID', and 'CourseID'. The bottom panel shows a terminal window with an error message: 'Access denied for user 'root'@'localhost' (using password: YES)'.

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

## Data insertion in the Table No : 07 (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");
'''
```



## Screenshot

The screenshot shows a Jupyter Notebook interface with a MySQL database connection. The left sidebar displays the database schema, including tables like `examregistration`, `examresults`, `course`, `enrollment`, `exam`, `faculty`, `student`, `teaching`, `views`, `procedures`, and `functions`. The main area shows a query result for `SELECT * FROM examregistration LIMIT 100`. The query cost is 10ms and the total rows are 8. The result is displayed as a table with columns `RegistrationID`, `StudentID`, `ExamID`, and `RegistrationDate`.

	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

The bottom panel shows the terminal output, which includes an error message: `mysql.connector.errors.ProgrammingError: 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)`. The terminal also shows the command `PS C:\Users\Digital Outlet\Desktop\python_connect_to_mysql> python mysql_connector.py`.

## Data insertion in the Table No : 08 (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);
"""
```

## Screenshot

The screenshot shows a Jupyter Notebook interface with a dark theme. The left sidebar displays a database schema for 'shuvodb' with tables like 'course', 'enrollment', 'exam', 'examregistration', 'examresults', 'faculty', 'student', and 'columns'. The 'examresults' table is selected, showing its columns: 'StudentID int', 'ExamID int', and 'Score decimal(5,2)'. The main area displays the SQL query: `SELECT * FROM examresults LIMIT 100`. Below the query, the results are shown as a table with 7 rows and 3 columns: 'ResultID int', 'StudentID int', 'ExamID int', and 'Score decimal(5,2)'. The bottom panel shows the terminal output, which includes a Python error message: `mysql.connector.errors.ProgrammingError: 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)`.

ResultID	StudentID	ExamID	Score
0	Filter	Filter	Filter
1	501	1	201
2	502	2	201
3	503	3	202
4	504	4	203
5	505	5	204
6	506	6	205
7	507	7	201

## 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"),
```

```
(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()
```