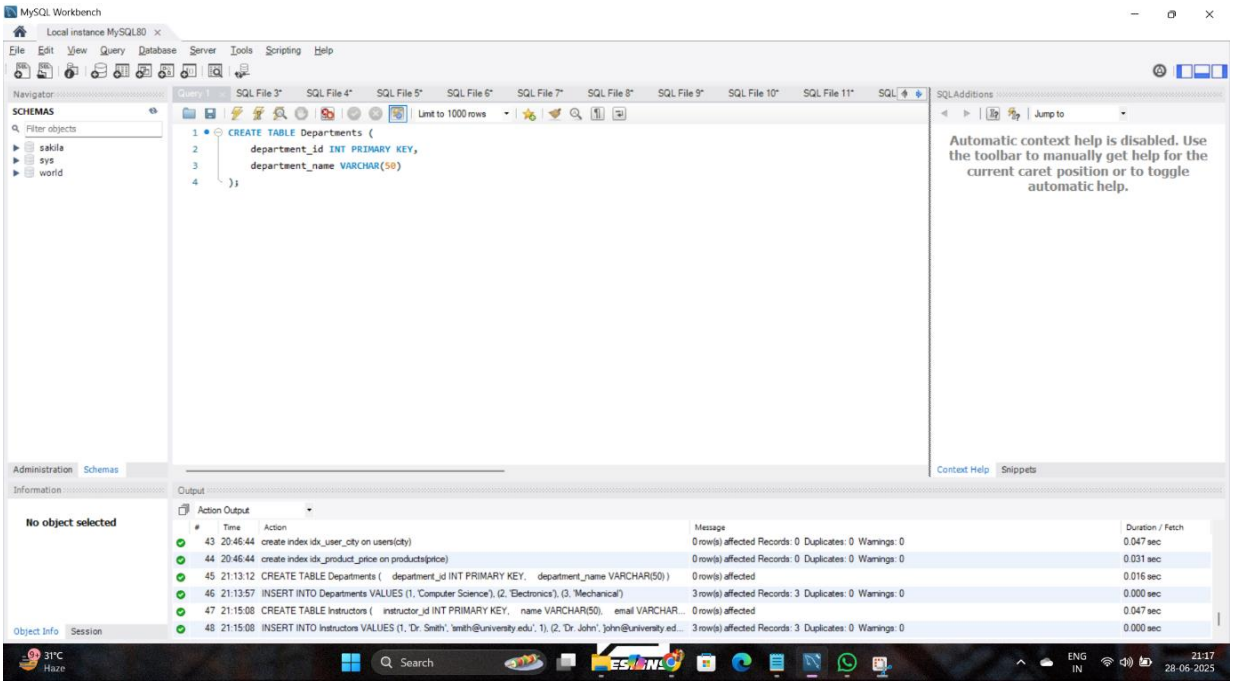
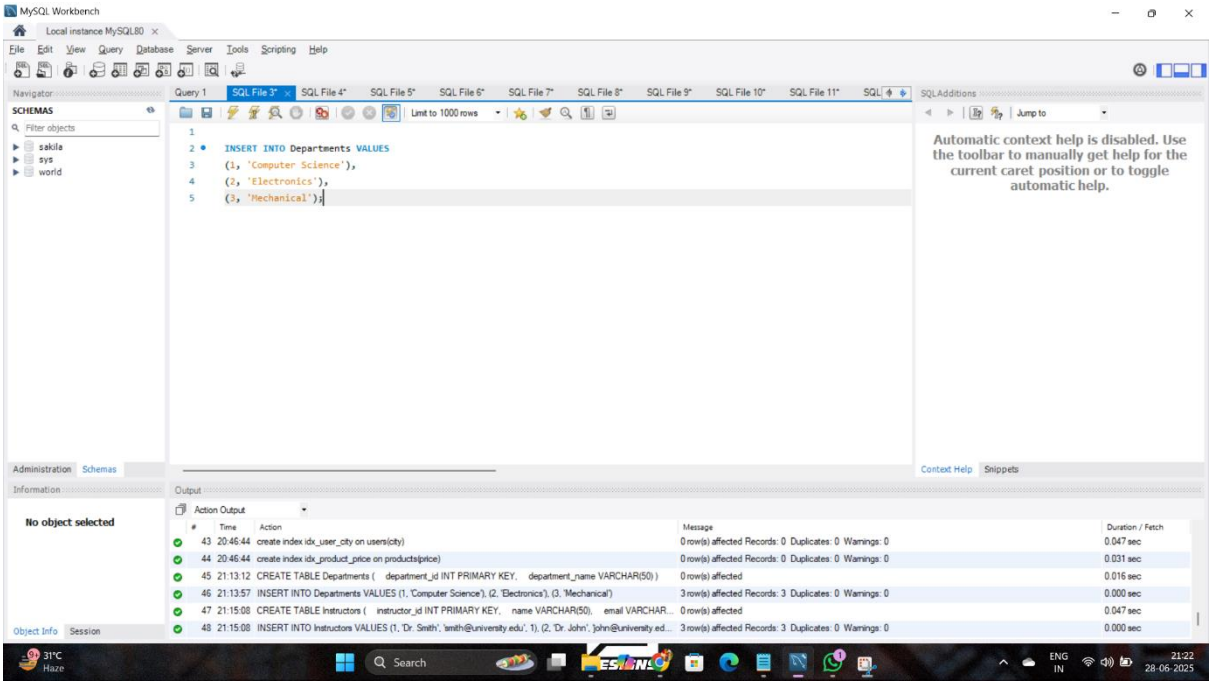
```
 DROP tables if already exist (optional safety)
DROP TABLE IF EXISTS EnrollmentDetails, Courses, Students, Departments,
Instructors;

 1. DEPARTMENTS Table
CREATE TABLE Departments (
    department_id INT PRIMARY KEY,
    department_name VARCHAR(50)
);

INSERT INTO Departments VALUES
(1, 'Computer Science'),
(2, 'Electronics'),
(3, 'Mechanical');

 2. INSTRUCTORS Table
CREATE TABLE Instructors (
    instructor_id INT PRIMARY KEY,
    name VARCHAR(50),
    email VARCHAR(100),
    department_id INT,
    FOREIGN KEY (department_id) REFERENCES Departments(department_id)
);

INSERT INTO Instructors VALUES
(1, 'Dr. Smith', 'smith@university.edu', 1),
(2, 'Dr. John', 'john@university.edu', 2),
(3, 'Dr. Alice', 'alice@university.edu', 3);

 3. COURSES Table
CREATE TABLE Courses (
    course_id INT PRIMARY KEY,
    title VARCHAR(100),
    credits INT,
    instructor_id INT,
    FOREIGN KEY (instructor_id) REFERENCES Instructors(instructor_id)
);

INSERT INTO Courses VALUES
(101, 'Data Structures', 4, 1),
(102, 'Digital Electronics', 3, 2),
(103, 'Thermodynamics', 4, 3),
(104, 'Operating Systems', 4, 1),
(105, 'Microprocessors', 3, 2);

 4. STUDENTS Table
CREATE TABLE Students (
    student_id INT PRIMARY KEY,
    name VARCHAR(50),
    email VARCHAR(100),
    city VARCHAR(50)
);

INSERT INTO Students VALUES
(1, 'Ravi', 'ravi@student.edu', 'Chennai'),
(2, 'Meera', 'meera@student.edu', 'Delhi'),
(3, 'Kiran', 'kiran@student.edu', 'Mumbai'),
(4, 'Anjali', 'anjali@student.edu', 'Bangalore'),
```

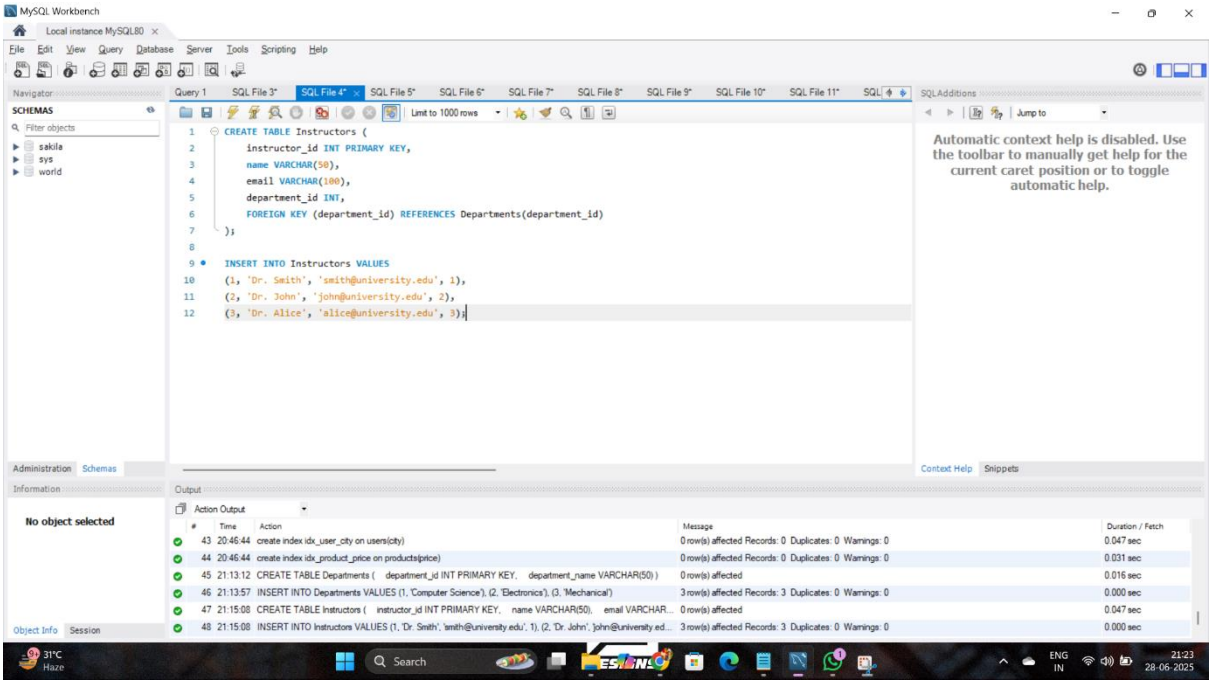
```
(5, 'Arjun', 'arjun@student.edu', 'Hyderabad');

 5. ENROLLMENTDETAILS Table (Many-to-Many between Students and Courses)
CREATE TABLE EnrollmentDetails (
    student_id INT,
    course_id INT,
    enrollment_date DATE,
    FOREIGN KEY (student_id) REFERENCES Students(student_id),
    FOREIGN KEY (course_id) REFERENCES Courses(course_id)
);

INSERT INTO EnrollmentDetails VALUES
(1, 101, '2024-01-10'),
(1, 104, '2024-01-12'),
(2, 102, '2024-01-15'),
(3, 103, '2024-01-20'),
(4, 101, '2024-01-22'),
(5, 105, '2024-01-25'),
(2, 105, '2024-01-27'),
(3, 102, '2024-01-30'),
(5, 103, '2024-02-01'),
(4, 104, '2024-02-05');

 Select students from Chennai
SELECT * FROM Students
WHERE city = 'Chennai';

-- Select all courses sorted by title
SELECT * FROM Courses
ORDER BY title ASC;

-- Count how many students are from each city
SELECT city, COUNT(*) AS student_count
FROM Students
GROUP BY city;

-- INNER JOIN: List of students with their enrolled courses
SELECT s.name AS student_name, c.title AS course_title
FROM Students s
INNER JOIN EnrollmentDetails e ON s.student_id = e.student_id
INNER JOIN Courses c ON e.course_id = c.course_id;

-- LEFT JOIN: List all students with their courses (if any)
SELECT s.name AS student_name, c.title AS course_title
FROM Students s
LEFT JOIN EnrollmentDetails e ON s.student_id = e.student_id
LEFT JOIN Courses c ON e.course_id = c.course_id;

-- RIGHT JOIN: List all courses with enrolled students (Note: SQLite
doesn't support RIGHT JOIN. Use in MySQL/PostgreSQL)
SELECT s.name AS student_name, c.title AS course_title
FROM Students s
RIGHT JOIN EnrollmentDetails e ON s.student_id = e.student_id
RIGHT JOIN Courses c ON e.course_id = c.course_id;

-- List names of students enrolled in 'Data Structures'
SELECT name
FROM Students
```

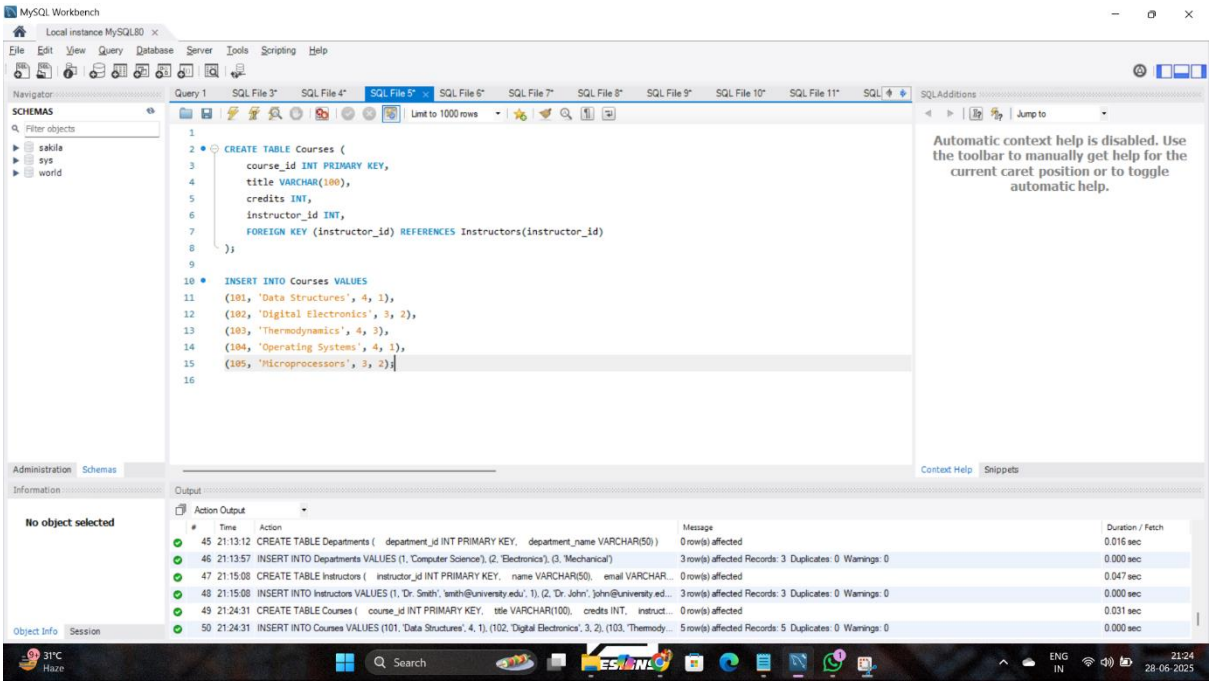
```
WHERE student_id IN (
    SELECT student_id
    FROM EnrollmentDetails
    WHERE course_id = (
        SELECT course_id
        FROM Courses
        WHERE title = 'Data Structures'
    )
);

-- Count of courses taught by each instructor (using subquery)
SELECT name, (
    SELECT COUNT(*)
    FROM Courses c
    WHERE c.instructor_id = i.instructor_id
) AS course_count
FROM Instructors i;

-- Total number of students enrolled per course
SELECT c.title, COUNT(e.student_id) AS total_enrolled
FROM Courses c
LEFT JOIN EnrollmentDetails e ON c.course_id = e.course_id
GROUP BY c.course_id;

-- Average number of credits per department
SELECT d.department_name, AVG(c.credits) AS avg_credits
FROM Departments d
JOIN Instructors i ON d.department_id = i.department_id
JOIN Courses c ON i.instructor_id = c.instructor_id
GROUP BY d.department_name;

-- View: Student Enrollment Info
CREATE VIEW StudentEnrollmentView AS
SELECT s.name AS student_name, c.title AS course_title, e.enrollment_date
FROM Students s
JOIN EnrollmentDetails e ON s.student_id = e.student_id
JOIN Courses c ON e.course_id = c.course_id;

-- View: Instructor Course Count
CREATE VIEW InstructorCourseCount AS
SELECT i.name AS instructor_name, COUNT(c.course_id) AS total_courses
FROM Instructors i
JOIN Courses c ON i.instructor_id = c.instructor_id
GROUP BY i.instructor_id;

-- Index on Students table for faster lookup by city
CREATE INDEX idx_students_city ON Students(city);

-- Index on EnrollmentDetails for faster joins
CREATE INDEX idx_enrollment_student ON EnrollmentDetails(student_id);
CREATE INDEX idx_enrollment_course ON EnrollmentDetails(course_id);

-- Index on Courses table for fast title lookup
CREATE INDEX idx_courses_title ON Courses(title)
```

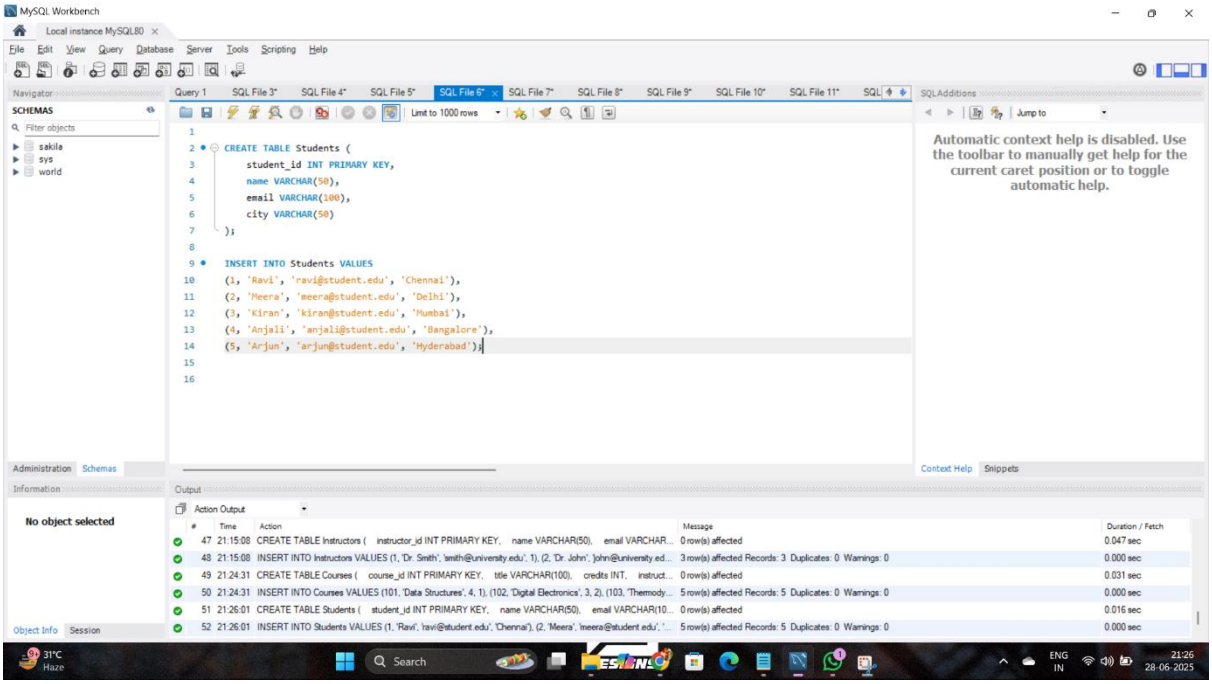
Output

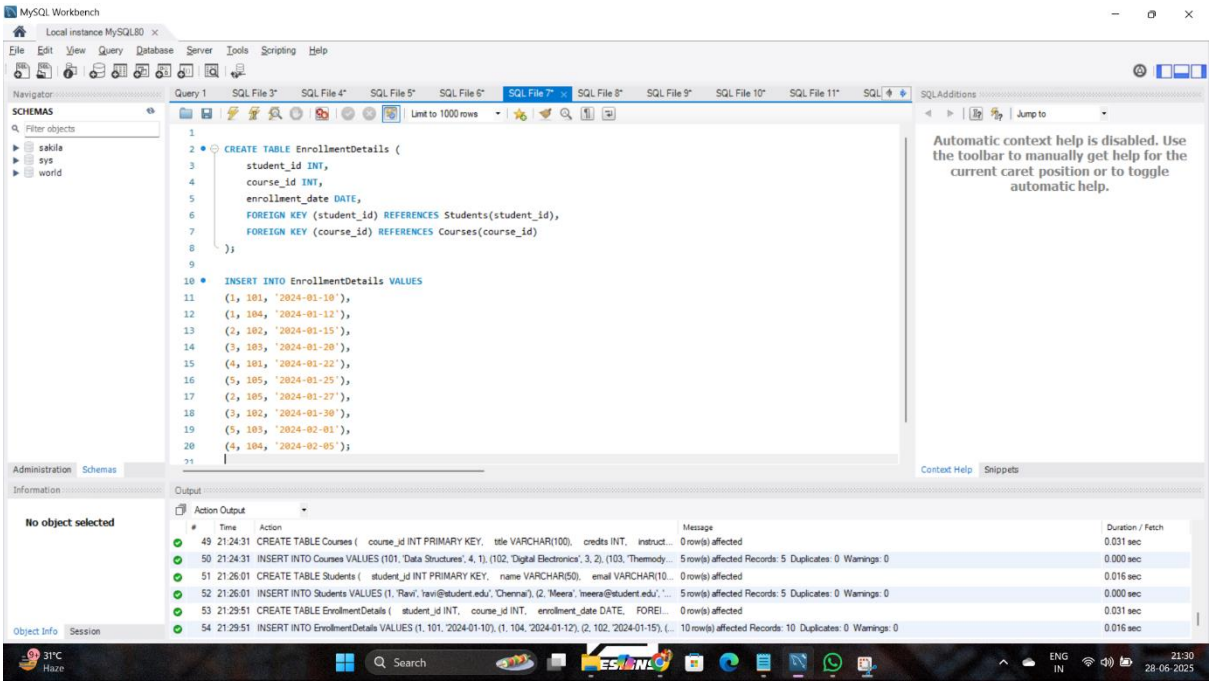

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
CREATE TABLE Departments (
department_id INT PRIMARY KEY,
department_name VARCHAR(50)
);
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
No object selected
Action Output
43 20:46:44 create index idx_user_city on users(city) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.047 sec
44 20:46:44 create index idx_product_price on products(price) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.031 sec
45 21:13:12 CREATE TABLE Departments (department_id INT PRIMARY KEY, department_name VARCHAR(50)) 0 row(s) affected 0.016 sec
46 21:13:57 INSERT INTO Departments VALUES (1, 'Computer Science'), (2, 'Electronics'), (3, 'Mechanical') 3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0 0.000 sec
47 21:15:08 CREATE TABLE Instructors (instructor_id INT PRIMARY KEY, name VARCHAR(50), email VARCHAR... 0 row(s) affected 0.047 sec
48 21:15:08 INSERT INTO Instructors VALUES (1, 'Dr. Smith', 'smith@university.edu', 1), (2, 'Dr. John', 'john@university.ed... 3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0 0.000 sec

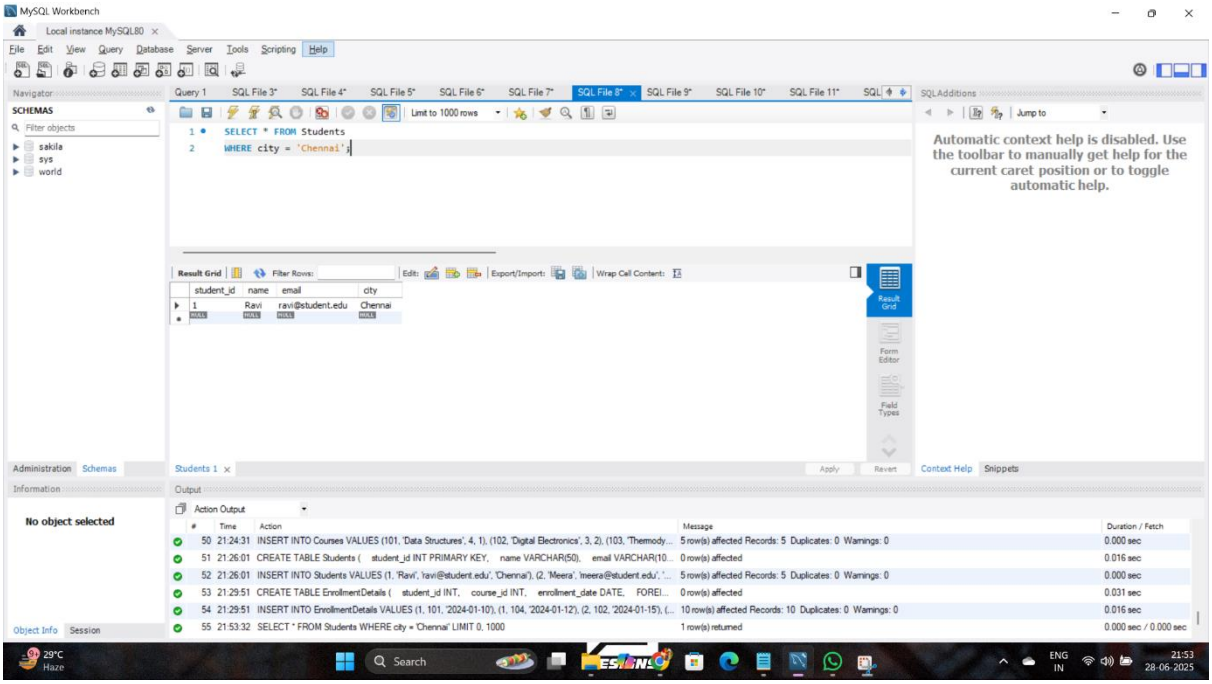

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
INSERT INTO Departments VALUES
(1, 'Computer Science'),
(2, 'Electronics'),
(3, 'Mechanical');
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
No object selected
Action Output
43 20:46:44 create index idx_user_city on users(city) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.047 sec
44 20:46:44 create index idx_product_price on products(price) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.031 sec
45 21:13:12 CREATE TABLE Departments (department_id INT PRIMARY KEY, department_name VARCHAR(50)) 0 row(s) affected 0.016 sec
46 21:13:57 INSERT INTO Departments VALUES (1, 'Computer Science'), (2, 'Electronics'), (3, 'Mechanical') 3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0 0.000 sec
47 21:15:08 CREATE TABLE Instructors (instructor_id INT PRIMARY KEY, name VARCHAR(50), email VARCHAR... 0 row(s) affected 0.047 sec
48 21:15:08 INSERT INTO Instructors VALUES (1, 'Dr. Smith', 'smith@university.edu', 1), (2, 'Dr. John', 'john@university.ed... 3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0 0.000 sec

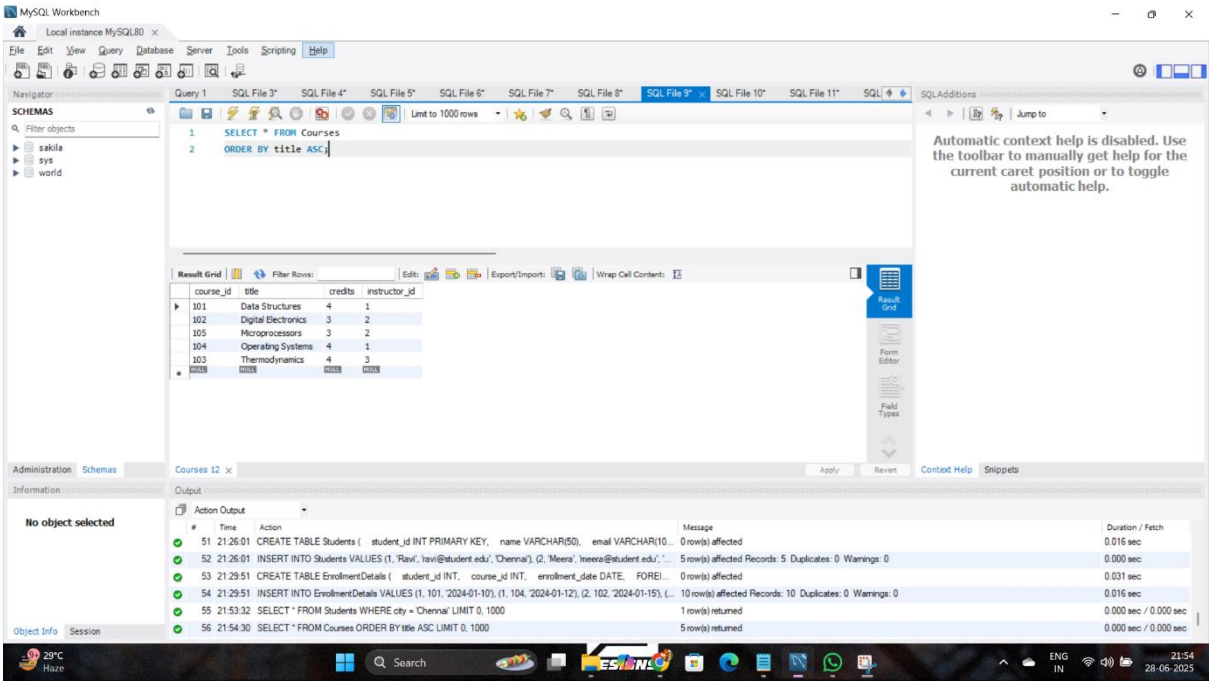

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
Query 1 SQL File 3* SQL File 4* SQL File 5* SQL File 6* SQL File 7* SQL File 8* SQL File 9* SQL File 10* SQL File 11*
Limit to 1000 rows
CREATE TABLE Instructors (
instructor_id INT PRIMARY KEY,
name VARCHAR(50),
email VARCHAR(100),
department_id INT,
FOREIGN KEY (department_id) REFERENCES Departments(department_id)
);
INSERT INTO Instructors VALUES
(1, 'Dr. Smith', 'smith@university.edu', 1),
(2, 'Dr. John', 'john@university.edu', 2),
(3, 'Dr. Alice', 'alice@university.edu', 3);
SQLAdditions
Jump to
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Context Help Snippets
Administration Schemas
Information
No object selected
Object Info Session
Output
Action Output
Time Action Message Duration / Fetch
43 20:46:44 create index idx_user_city on users(city) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.047 sec
44 20:46:44 create index idx_product_price on products(price) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.031 sec
45 21:13:12 CREATE TABLE Departments (department_id INT PRIMARY KEY, department_name VARCHAR(50)) 0 row(s) affected 0.016 sec
46 21:13:57 INSERT INTO Departments VALUES (1, 'Computer Science'), (2, 'Electronics'), (3, 'Mechanical') 3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0 0.000 sec
47 21:15:08 CREATE TABLE Instructors (instructor_id INT PRIMARY KEY, name VARCHAR(50), email VARCHAR... 0 row(s) affected 0.047 sec
48 21:15:08 INSERT INTO Instructors VALUES (1, 'Dr. Smith', 'smith@university.edu', 1), (2, 'Dr. John', 'john@university.ed... 3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0 0.000 sec
31°C Haze
Search
ENG IN
21:23 28-06-2025

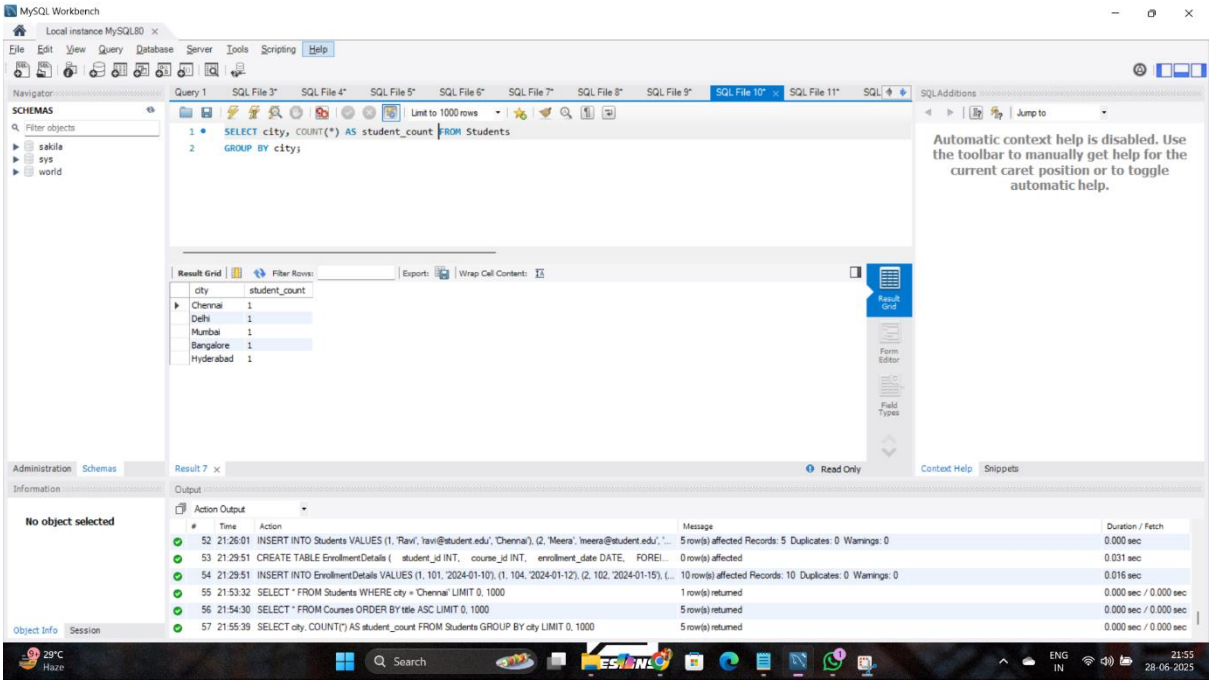

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
Query 1 SQL File 3* SQL File 4* SQL File 5* SQL File 6* SQL File 7* SQL File 8* SQL File 9* SQL File 10* SQL File 11*
Limit to 1000 rows
CREATE TABLE Courses (
course_id INT PRIMARY KEY,
title VARCHAR(100),
credits INT,
instructor_id INT,
FOREIGN KEY (instructor_id) REFERENCES Instructors(instructor_id)
);
INSERT INTO Courses VALUES
(101, 'Data Structures', 4, 1),
(102, 'Digital Electronics', 3, 2),
(103, 'Thermodynamics', 4, 3),
(104, 'Operating Systems', 4, 1),
(105, 'Microprocessors', 3, 2);
SQLAdditions
Jump to
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Context Help Snippets
Administration Schemas
Information
No object selected
Object Info Session
Output
Action Output
Time Action Message Duration / Fetch
45 21:13:12 CREATE TABLE Departments (department_id INT PRIMARY KEY, department_name VARCHAR(50)) 0 row(s) affected 0.016 sec
46 21:13:57 INSERT INTO Departments VALUES (1, 'Computer Science'), (2, 'Electronics'), (3, 'Mechanical') 3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0 0.000 sec
47 21:15:08 CREATE TABLE Instructors (instructor_id INT PRIMARY KEY, name VARCHAR(50), email VARCHAR... 0 row(s) affected 0.047 sec
48 21:15:08 INSERT INTO Instructors VALUES (1, 'Dr. Smith', 'smith@university.edu', 1), (2, 'Dr. John', 'john@university.ed... 3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0 0.000 sec
49 21:24:31 CREATE TABLE Courses (course_id INT PRIMARY KEY, title VARCHAR(100), credits INT, instruct... 0 row(s) affected 0.031 sec
50 21:24:31 INSERT INTO Courses VALUES (101, 'Data Structures', 4, 1), (102, 'Digital Electronics', 3, 2), (103, 'Thermody... 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 0.000 sec
31°C Haze
Search
ENG IN
21:24 28-06-2025

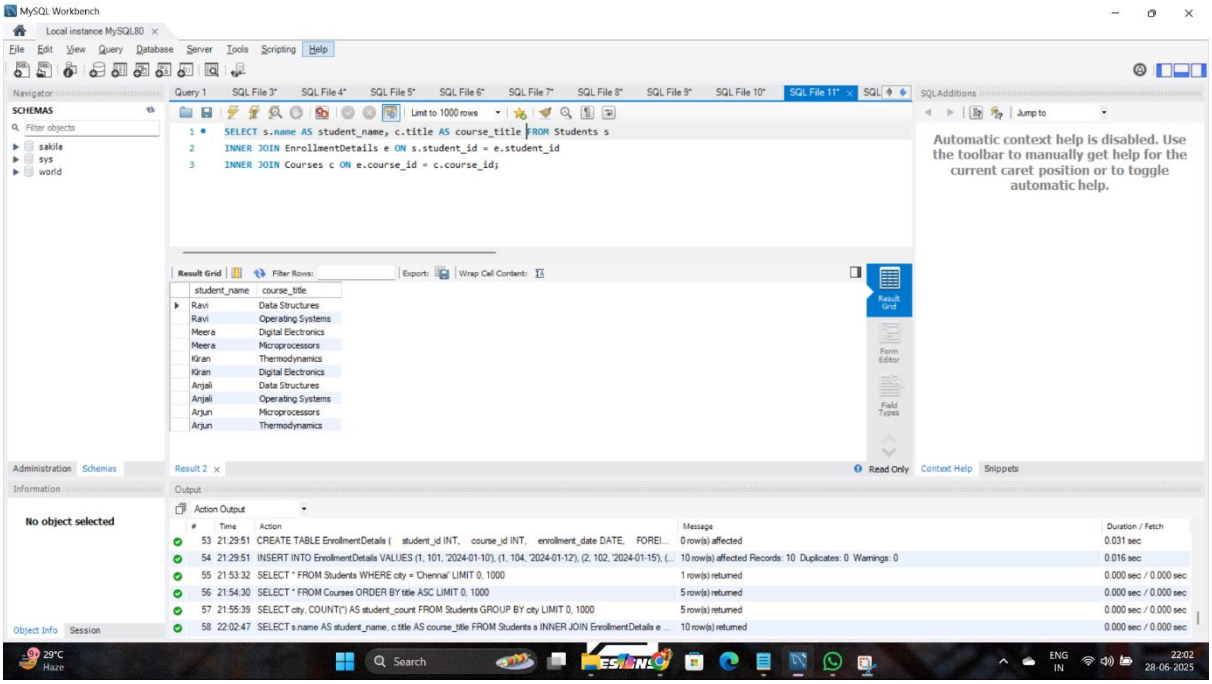

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
Query 1 SQL File 3* SQL File 4* SQL File 5* SQL File 6* SQL File 7* SQL File 8* SQL File 9* SQL File 10* SQL File 11*
Limit to 1000 rows
CREATE TABLE Students (
student_id INT PRIMARY KEY,
name VARCHAR(50),
email VARCHAR(100),
city VARCHAR(50)
);
INSERT INTO Students VALUES
(1, 'Ravi', 'ravi@student.edu', 'Chennai'),
(2, 'Meera', 'meera@student.edu', 'Delhi'),
(3, 'Kiran', 'kiran@student.edu', 'Mumbai'),
(4, 'Anjali', 'anjali@student.edu', 'Bangalore'),
(5, 'Arjun', 'arjun@student.edu', 'Hyderabad');
SQLAdditions
Jump to
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Context Help Snippets
Administration Schemas
Information
No object selected
Object Info Session
Output
Action Output
Time Action Message Duration / Fetch
47 21:15:08 CREATE TABLE Instructors (instructor_id INT PRIMARY KEY, name VARCHAR(50), email VARCHAR... 0 row(s) affected 0.047 sec
48 21:15:08 INSERT INTO Instructors VALUES (1, 'Dr. Smith', 'smith@university.edu', 1), (2, 'Dr. John', 'john@university.ed... 3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0 0.000 sec
49 21:24:31 CREATE TABLE Courses (course_id INT PRIMARY KEY, title VARCHAR(100), credits INT, instruct... 0 row(s) affected 0.031 sec
50 21:24:31 INSERT INTO Courses VALUES (101, 'Data Structures', 4, 1), (102, 'Digital Electronics', 3, 2), (103, 'Thermody... 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 0.000 sec
51 21:26:01 CREATE TABLE Students (student_id INT PRIMARY KEY, name VARCHAR(50), email VARCHAR(10... 0 row(s) affected 0.016 sec
52 21:26:01 INSERT INTO Students VALUES (1, 'Ravi', 'ravi@student.edu', 'Chennai'), (2, 'Meera', 'meera@student.edu', '... 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 0.000 sec
31°C Haze
Search
ENG IN
21:26 28-06-2025

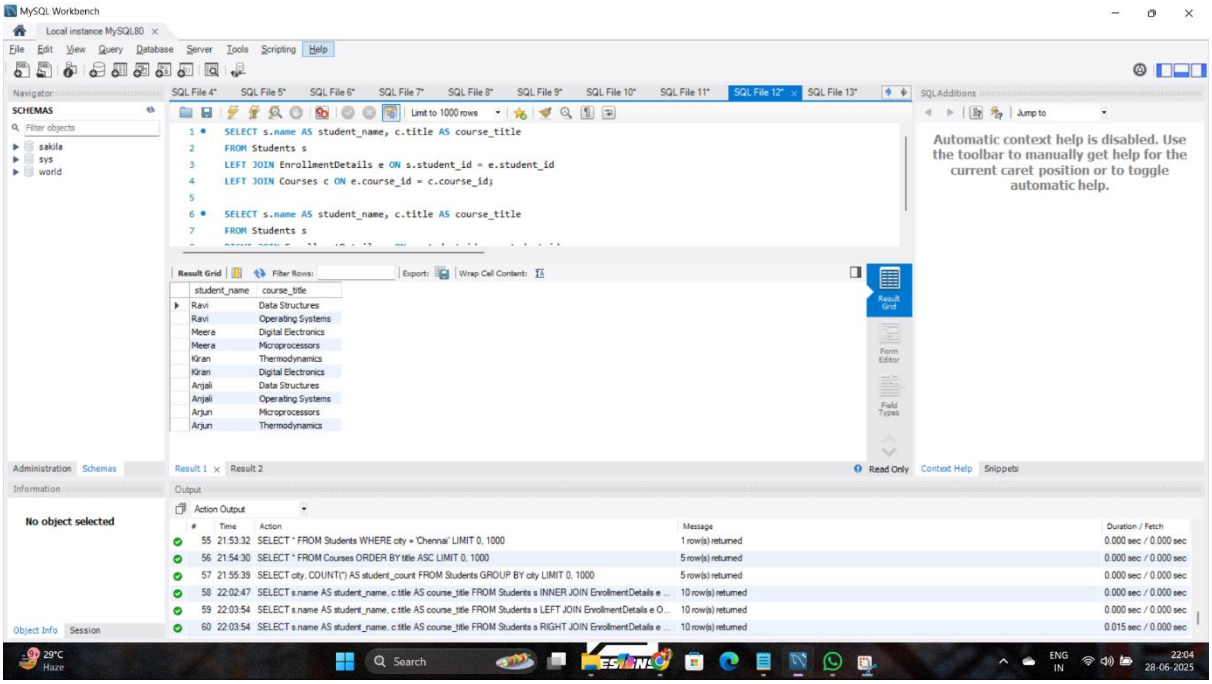

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
Query 1 SQL File 3* SQL File 4* SQL File 5* SQL File 6* SQL File 7* SQL File 8* SQL File 9* SQL File 10* SQL File 11*
Limit to 1000 rows
CREATE TABLE EnrollmentDetails (
student_id INT,
course_id INT,
enrollment_date DATE,
FOREIGN KEY (student_id) REFERENCES Students(student_id),
FOREIGN KEY (course_id) REFERENCES Courses(course_id)
);
INSERT INTO EnrollmentDetails VALUES
(1, 101, '2024-01-10'),
(1, 104, '2024-01-12'),
(2, 102, '2024-01-15'),
(3, 103, '2024-01-20'),
(4, 101, '2024-01-22'),
(5, 105, '2024-01-25'),
(2, 105, '2024-01-27'),
(3, 102, '2024-01-30'),
(5, 103, '2024-02-01'),
(4, 104, '2024-02-05');
SQLAdditions
Jump to
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Context Help Snippets
Administration Schemas
Information
No object selected
Object Info Session
Output
Action Output
Time Action Message Duration / Fetch
49 21:24:31 CREATE TABLE Courses (course_id INT PRIMARY KEY, title VARCHAR(100), credits INT, instruct... 0 row(s) affected 0.031 sec
50 21:24:31 INSERT INTO Courses VALUES (101, 'Data Structures', 4, 1), (102, 'Digital Electronics', 3, 2), (103, 'Thermody... 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 0.000 sec
51 21:26:01 CREATE TABLE Students (student_id INT PRIMARY KEY, name VARCHAR(50), email VARCHAR(10... 0 row(s) affected 0.016 sec
52 21:26:01 INSERT INTO Students VALUES (1, 'Ravi', 'ravi@student.edu', 'Chennai'), (2, 'Meera', 'meera@student.edu', '... 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 0.000 sec
53 21:29:51 CREATE TABLE EnrollmentDetails (student_id INT, course_id INT, enrollment_date DATE, FOREI... 0 row(s) affected 0.031 sec
54 21:29:51 INSERT INTO EnrollmentDetails VALUES (1, 101, '2024-01-10'), (1, 104, '2024-01-12'), (2, 102, '2024-01-15'), (... 10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0 0.016 sec
31°C Haze
Search
ENG IN
21:30 28-06-2025

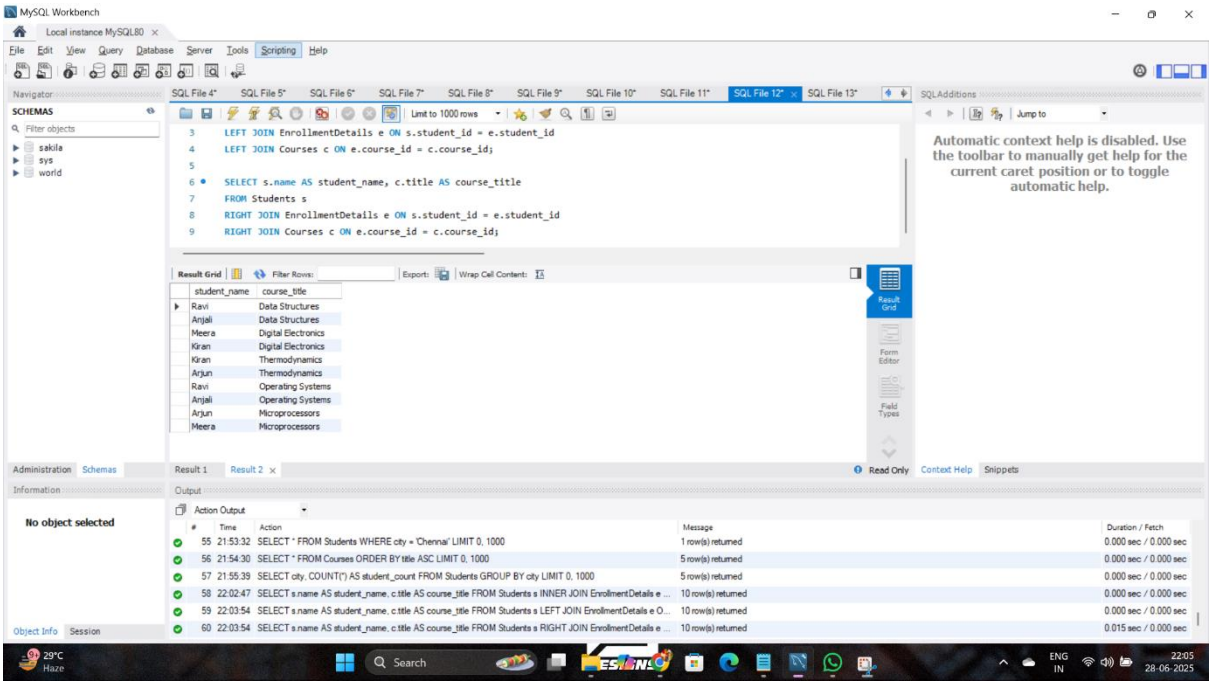

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
SELECT * FROM Students
WHERE city = 'Chennai';
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
student_id name email city
1 Ravi ravi@student.edu Chennai
No object selected
50 21:24:31 INSERT INTO Courses VALUES (101, 'Data Structures', 4, 1), (102, 'Digital Electronics', 3, 2), (103, 'Thermody... 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 0.000 sec
51 21:26:01 CREATE TABLE Students (student_id INT PRIMARY KEY, name VARCHAR(50), email VARCHAR(10... 0 row(s) affected 0.016 sec
52 21:26:01 INSERT INTO Students VALUES (1, 'Ravi', 'ravi@student.edu', 'Chennai'), (2, 'Meera', 'meera@student.edu', '... 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 0.000 sec
53 21:29:51 CREATE TABLE EnrollmentDetails (student_id INT, course_id INT, enrollment_date DATE, FOREI... 0 row(s) affected 0.031 sec
54 21:29:51 INSERT INTO EnrollmentDetails VALUES (1, 101, '2024-01-10'), (1, 104, '2024-01-12'), (2, 102, '2024-01-15'), (... 10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0 0.016 sec
55 21:53:32 SELECT * FROM Students WHERE city = 'Chennai' LIMIT 0, 1000 1 row(s) returned 0.000 sec / 0.000 sec
29°C Haze
Search
ENG IN
21:53 28-06-2025

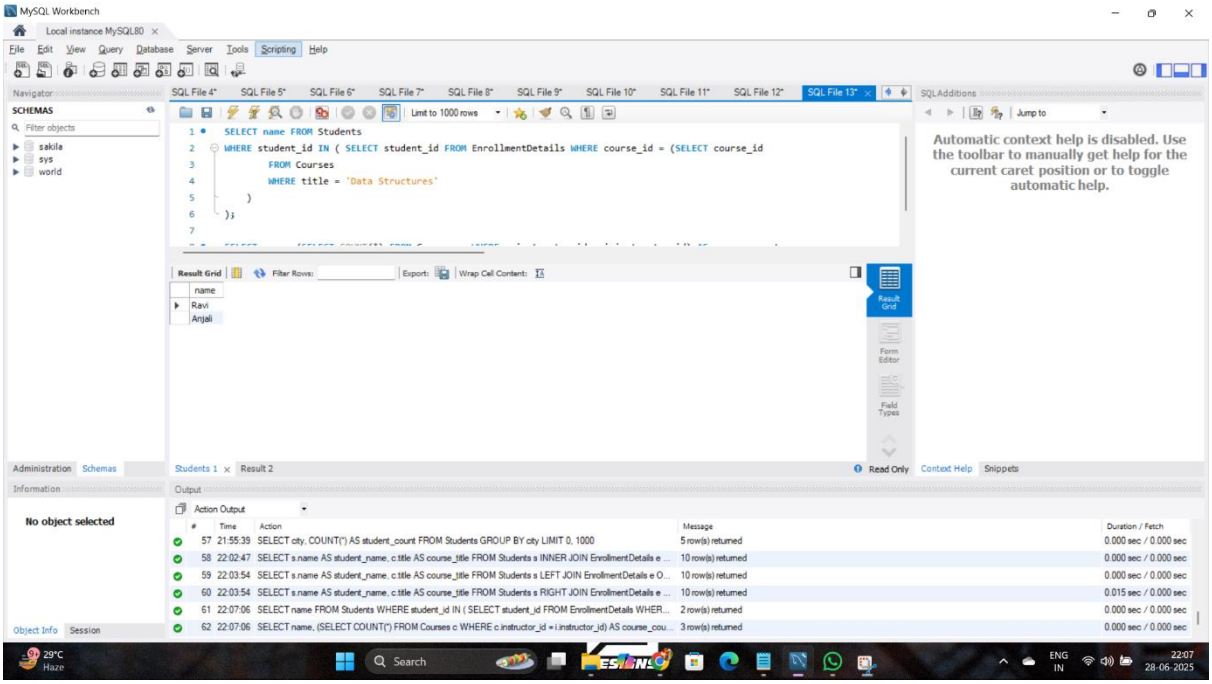

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
SELECT * FROM Courses
ORDER BY title ASC;
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
course_id title credits instructor_id
101 Data Structures 4 1
102 Digital Electronics 3 2
105 Microprocessors 3 2
104 Operating Systems 4 1
103 Thermodynamics 4 3
No object selected
51 21:26:01 CREATE TABLE Students (student_id INT PRIMARY KEY, name VARCHAR(50), email VARCHAR(10... 0 row(s) affected 0.016 sec
52 21:26:01 INSERT INTO Students VALUES (1, 'Ravi', 'ravi@student.edu', 'Chennai'), (2, 'Meera', 'meera@student.edu', '... 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 0.000 sec
53 21:29:51 CREATE TABLE EnrollmentDetails (student_id INT, course_id INT, enrollment_date DATE, FOREI... 0 row(s) affected 0.031 sec
54 21:29:51 INSERT INTO EnrollmentDetails VALUES (1, 101, '2024-01-10'), (1, 104, '2024-01-12'), (2, 102, '2024-01-15'), (... 10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0 0.016 sec
55 21:53:32 SELECT * FROM Students WHERE city = 'Chennai' LIMIT 0, 1000 1 row(s) returned 0.000 sec / 0.000 sec
56 21:54:30 SELECT * FROM Courses ORDER BY title ASC LIMIT 0, 1000 5 row(s) returned 0.000 sec / 0.000 sec
29°C Haze
Search
ENG IN
21:54 28-06-2025

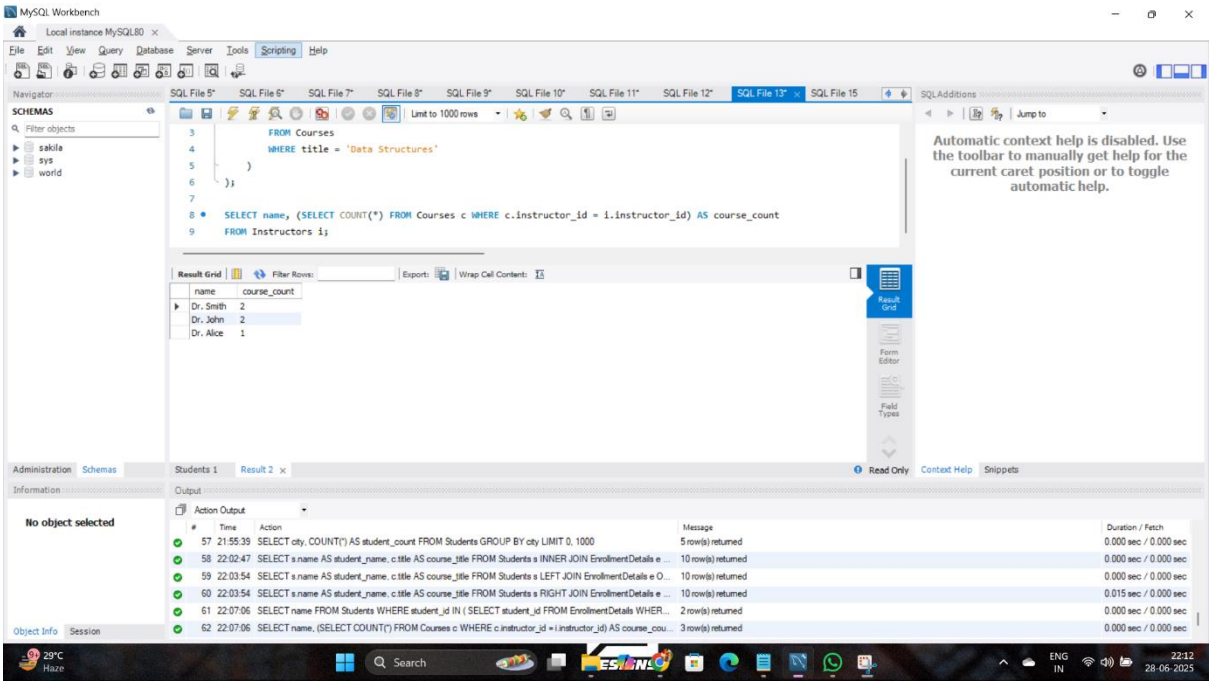

MySQL Workbench
SELECT city, COUNT(*) AS student_count FROM Students
GROUP BY city;
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
city student_count
Chennai 1
Delhi 1
Mumbai 1
Bangalore 1
Hyderabad 1
No object selected

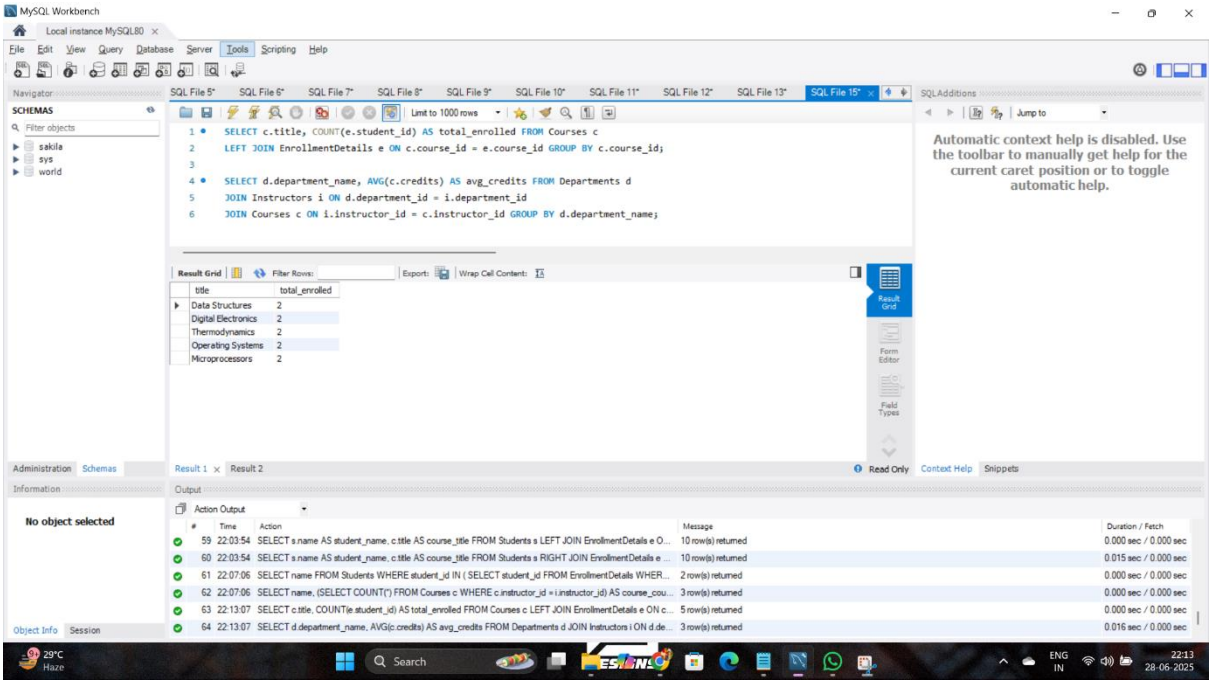

MySQL Workbench
SELECT s.name AS student_name, c.title AS course_title FROM Students s
INNER JOIN EnrollmentDetails e ON s.student_id = e.student_id
INNER JOIN Courses c ON e.course_id = c.course_id;
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
student_name course_title
Ravi Data Structures
Ravi Operating Systems
Meera Digital Electronics
Meera Microprocessors
Kiran Thermodynamics
Kiran Digital Electronics
Anjali Data Structures
Anjali Operating Systems
Arjun Microprocessors
Arjun Thermodynamics
No object selected

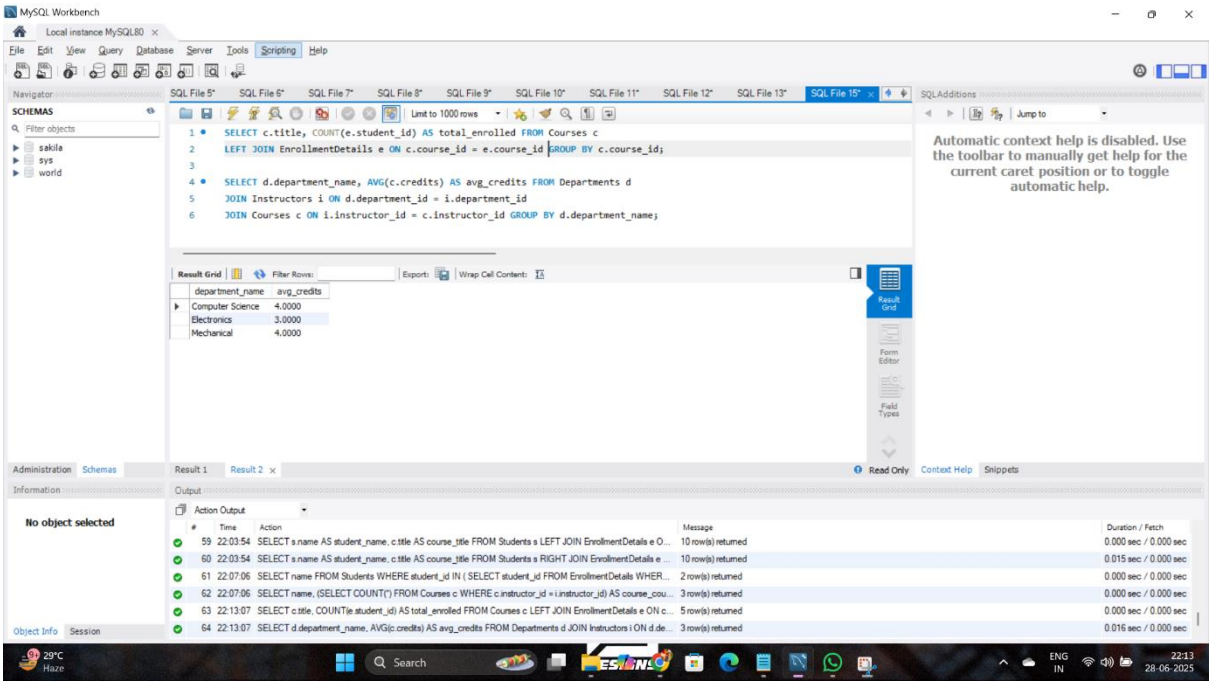

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
SQL File 4* SQL File 5* SQL File 6* SQL File 7* SQL File 8* SQL File 9* SQL File 10* SQL File 11* SQL File 12* SQL File 13*
1 • SELECT s.name AS student_name, c.title AS course_title
2 FROM Students s
3 LEFT JOIN EnrollmentDetails e ON s.student_id = e.student_id
4 LEFT JOIN Courses c ON e.course_id = c.course_id;
5
6 • SELECT s.name AS student_name, c.title AS course_title
7 FROM Students s
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Result Grid
student_name course_title
Ravi Data Structures
Ravi Operating Systems
Meera Digital Electronics
Meera Microprocessors
Kiran Thermodynamics
Kiran Digital Electronics
Anjali Data Structures
Anjali Operating Systems
Arjun Microprocessors
Arjun Thermodynamics
Result 1 Result 2
Read Only
Context Help Snippets
Information
No object selected
Output
Action Output
Time Action Message Duration / Fetch
55 21:53:32 SELECT * FROM Students WHERE city = 'Chennai' LIMIT 0, 1000 1 row(s) returned 0.000 sec / 0.000 sec
56 21:54:30 SELECT * FROM Courses ORDER BY title ASC LIMIT 0, 1000 5 row(s) returned 0.000 sec / 0.000 sec
57 21:55:39 SELECT city, COUNT(*) AS student_count FROM Students GROUP BY city LIMIT 0, 1000 5 row(s) returned 0.000 sec / 0.000 sec
58 22:02:47 SELECT s.name AS student_name, c.title AS course_title FROM Students s INNER JOIN EnrollmentDetails e ... 10 row(s) returned 0.000 sec / 0.000 sec
59 22:03:54 SELECT s.name AS student_name, c.title AS course_title FROM Students s LEFT JOIN EnrollmentDetails e O... 10 row(s) returned 0.000 sec / 0.000 sec
60 22:03:54 SELECT s.name AS student_name, c.title AS course_title FROM Students s RIGHT JOIN EnrollmentDetails e ... 10 row(s) returned 0.015 sec / 0.000 sec
Object Info Session
29°C Haze
Search
ENG IN
22:04 28-06-2025

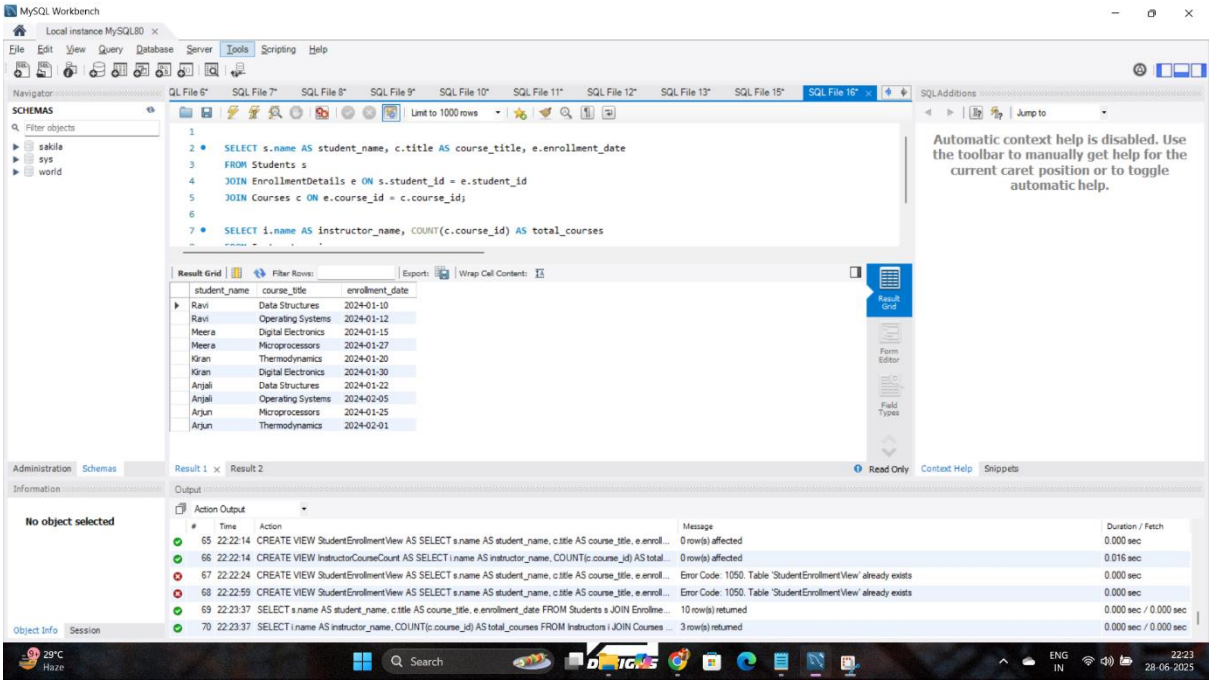

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
SQL File 4* SQL File 5* SQL File 6* SQL File 7* SQL File 8* SQL File 9* SQL File 10* SQL File 11* SQL File 12* SQL File 13*
3 LEFT JOIN EnrollmentDetails e ON s.student_id = e.student_id
4 LEFT JOIN Courses c ON e.course_id = c.course_id;
5
6 • SELECT s.name AS student_name, c.title AS course_title
7 FROM Students s
8 RIGHT JOIN EnrollmentDetails e ON s.student_id = e.student_id
9 RIGHT JOIN Courses c ON e.course_id = c.course_id;
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Result Grid
student_name course_title
Ravi Data Structures
Anjali Data Structures
Meera Digital Electronics
Kiran Digital Electronics
Kiran Thermodynamics
Arjun Thermodynamics
Ravi Operating Systems
Anjali Operating Systems
Arjun Microprocessors
Meera Microprocessors
Result 1 Result 2
Read Only
Context Help Snippets
Information
No object selected
Output
Action Output
Time Action Message Duration / Fetch
55 21:53:32 SELECT * FROM Students WHERE city = 'Chennai' LIMIT 0, 1000 1 row(s) returned 0.000 sec / 0.000 sec
56 21:54:30 SELECT * FROM Courses ORDER BY title ASC LIMIT 0, 1000 5 row(s) returned 0.000 sec / 0.000 sec
57 21:55:39 SELECT city, COUNT(*) AS student_count FROM Students GROUP BY city LIMIT 0, 1000 5 row(s) returned 0.000 sec / 0.000 sec
58 22:02:47 SELECT s.name AS student_name, c.title AS course_title FROM Students s INNER JOIN EnrollmentDetails e ... 10 row(s) returned 0.000 sec / 0.000 sec
59 22:03:54 SELECT s.name AS student_name, c.title AS course_title FROM Students s LEFT JOIN EnrollmentDetails e O... 10 row(s) returned 0.000 sec / 0.000 sec
60 22:03:54 SELECT s.name AS student_name, c.title AS course_title FROM Students s RIGHT JOIN EnrollmentDetails e ... 10 row(s) returned 0.015 sec / 0.000 sec
Object Info Session
29°C Haze
Search
ENG IN
22:05 28-06-2025

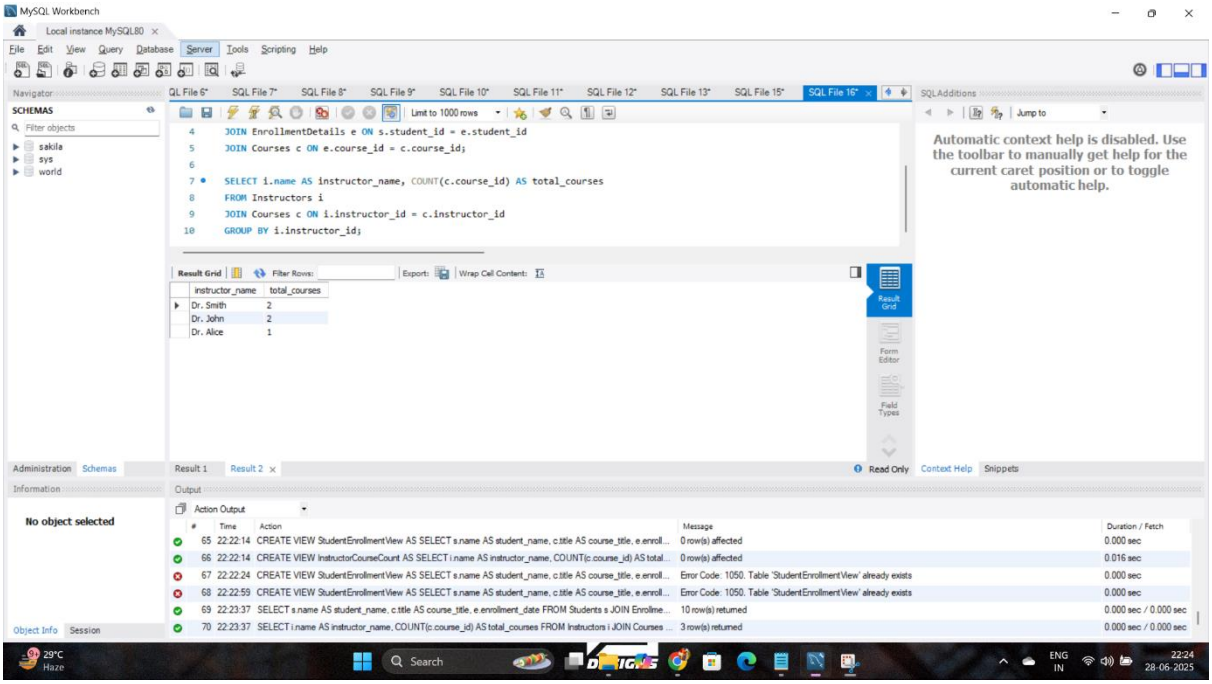

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SQL File 4* SQL File 5* SQL File 6* SQL File 7* SQL File 8* SQL File 9* SQL File 10* SQL File 11* SQL File 12* SQL File 13*
SCHEMAS
sakila
sys
world
SELECT name FROM Students
WHERE student_id IN (SELECT student_id FROM EnrollmentDetails WHERE course_id = (SELECT course_id
FROM Courses
WHERE title = 'Data Structures'
)
);
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Result Grid
name
Ravi
Anjali
Students 1
Result 2
Read Only
Context Help
Snippets
Information
No object selected
Output
Action Output
57 21:55:39 SELECT city, COUNT(*) AS student_count FROM Students GROUP BY city LIMIT 0, 1000 5 row(s) returned 0.000 sec / 0.000 sec
58 22:02:47 SELECT s.name AS student_name, c.title AS course_title FROM Students s INNER JOIN EnrollmentDetails e ... 10 row(s) returned 0.000 sec / 0.000 sec
59 22:03:54 SELECT s.name AS student_name, c.title AS course_title FROM Students s LEFT JOIN EnrollmentDetails e O... 10 row(s) returned 0.000 sec / 0.000 sec
60 22:03:54 SELECT s.name AS student_name, c.title AS course_title FROM Students s RIGHT JOIN EnrollmentDetails e ... 10 row(s) returned 0.015 sec / 0.000 sec
61 22:07:06 SELECT name FROM Students WHERE student_id IN (SELECT student_id FROM EnrollmentDetails WHER... 2 row(s) returned 0.000 sec / 0.000 sec
62 22:07:06 SELECT name, (SELECT COUNT(*) FROM Courses c WHERE c.instructor_id = i.instructor_id) AS course_cou... 3 row(s) returned 0.000 sec / 0.000 sec
Object Info Session
29°C Haze
Search
ENG IN
22:07 28-06-2025

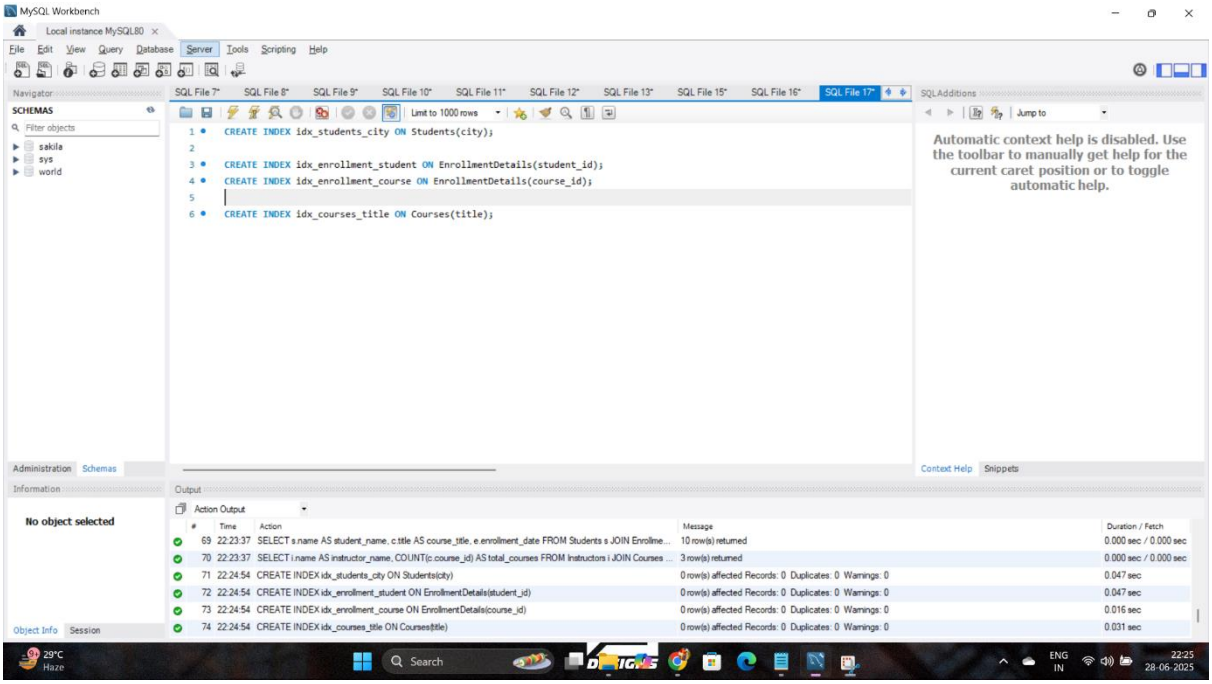

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SQL File 5* SQL File 6* SQL File 7* SQL File 8* SQL File 9* SQL File 10* SQL File 11* SQL File 12* SQL File 13* SQL File 15
SCHEMAS
sakila
sys
world
FROM Courses
WHERE title = 'Data Structures'
)
);
SELECT name, (SELECT COUNT(*) FROM Courses c WHERE c.instructor_id = i.instructor_id) AS course_count
FROM Instructors i;
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Result Grid
name course_count
Dr. Smith 2
Dr. John 2
Dr. Alice 1
Students 1
Result 2
Read Only
Context Help
Snippets
Information
No object selected
Output
Action Output
57 21:55:39 SELECT city, COUNT(*) AS student_count FROM Students GROUP BY city LIMIT 0, 1000 5 row(s) returned 0.000 sec / 0.000 sec
58 22:02:47 SELECT s.name AS student_name, c.title AS course_title FROM Students s INNER JOIN EnrollmentDetails e ... 10 row(s) returned 0.000 sec / 0.000 sec
59 22:03:54 SELECT s.name AS student_name, c.title AS course_title FROM Students s LEFT JOIN EnrollmentDetails e O... 10 row(s) returned 0.000 sec / 0.000 sec
60 22:03:54 SELECT s.name AS student_name, c.title AS course_title FROM Students s RIGHT JOIN EnrollmentDetails e ... 10 row(s) returned 0.015 sec / 0.000 sec
61 22:07:06 SELECT name FROM Students WHERE student_id IN (SELECT student_id FROM EnrollmentDetails WHER... 2 row(s) returned 0.000 sec / 0.000 sec
62 22:07:06 SELECT name, (SELECT COUNT(*) FROM Courses c WHERE c.instructor_id = i.instructor_id) AS course_cou... 3 row(s) returned 0.000 sec / 0.000 sec
Object Info Session
29°C Haze
Search
ENG IN
22:12 28-06-2025


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
SELECT c.title, COUNT(e.student_id) AS total_enrolled FROM Courses c
LEFT JOIN EnrollmentDetails e ON c.course_id = e.course_id GROUP BY c.course_id;
SELECT d.department_name, AVG(c.credits) AS avg_credits FROM Departments d
JOIN Instructors i ON d.department_id = i.department_id
JOIN Courses c ON i.instructor_id = c.instructor_id GROUP BY d.department_name;
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
title total_enrolled
Data Structures 2
Digital Electronics 2
Thermodynamics 2
Operating Systems 2
Microprocessors 2
No object selected
29°C Haze
Search
ENG IN
22:13 28-06-2025


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
SELECT c.title, COUNT(e.student_id) AS total_enrolled FROM Courses c
LEFT JOIN EnrollmentDetails e ON c.course_id = e.course_id GROUP BY c.course_id;
SELECT d.department_name, AVG(c.credits) AS avg_credits FROM Departments d
JOIN Instructors i ON d.department_id = i.department_id
JOIN Courses c ON i.instructor_id = c.instructor_id GROUP BY d.department_name;
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
department_name avg_credits
Computer Science 4.0000
Electronics 3.0000
Mechanical 4.0000
No object selected
29°C Haze
Search
ENG IN
22:13 28-06-2025


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
SELECT s.name AS student_name, c.title AS course_title, e.enrollment_date
FROM Students s
JOIN EnrollmentDetails e ON s.student_id = e.student_id
JOIN Courses c ON e.course_id = c.course_id;
SELECT i.name AS instructor_name, COUNT(c.course_id) AS total_courses
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
student_name course_title enrollment_date
Ravi Data Structures 2024-01-10
Ravi Operating Systems 2024-01-12
Meera Digital Electronics 2024-01-15
Meera Microprocessors 2024-01-27
Kiran Thermodynamics 2024-01-20
Kiran Digital Electronics 2024-01-30
Anjali Data Structures 2024-01-22
Anjali Operating Systems 2024-02-05
Arjun Microprocessors 2024-01-25
Arjun Thermodynamics 2024-02-01
No object selected
65 22:22:14 CREATE VIEW StudentEnrollmentView AS SELECT s.name AS student_name, c.title AS course_title, e.enroll... 0 row(s) affected 0.000 sec
66 22:22:14 CREATE VIEW InstructorCourseCount AS SELECT i.name AS instructor_name, COUNT(c.course_id) AS total... 0 row(s) affected 0.016 sec
67 22:22:24 CREATE VIEW StudentEnrollmentView AS SELECT s.name AS student_name, c.title AS course_title, e.enroll... Error Code: 1050. Table 'StudentEnrollmentView' already exists 0.000 sec
68 22:22:59 CREATE VIEW StudentEnrollmentView AS SELECT s.name AS student_name, c.title AS course_title, e.enroll... Error Code: 1050. Table 'StudentEnrollmentView' already exists 0.000 sec
69 22:23:37 SELECT s.name AS student_name, c.title AS course_title, e.enrollment_date FROM Students s JOIN Enrollme... 10 row(s) returned 0.000 sec / 0.000 sec
70 22:23:37 SELECT i.name AS instructor_name, COUNT(c.course_id) AS total_courses FROM Instructors i JOIN Courses ... 3 row(s) returned 0.000 sec / 0.000 sec
29°C Haze
Search
ENG IN
22:23 28-06-2025


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
sakila
sys
world
JOIN EnrollmentDetails e ON s.student_id = e.student_id
JOIN Courses c ON e.course_id = c.course_id;
SELECT i.name AS instructor_name, COUNT(c.course_id) AS total_courses
FROM Instructors i
JOIN Courses c ON i.instructor_id = c.instructor_id
GROUP BY i.instructor_id;
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
instructor_name total_courses
Dr. Smith 2
Dr. John 2
Dr. Alice 1
No object selected
65 22:22:14 CREATE VIEW StudentEnrollmentView AS SELECT s.name AS student_name, c.title AS course_title, e.enroll... 0 row(s) affected 0.000 sec
66 22:22:14 CREATE VIEW InstructorCourseCount AS SELECT i.name AS instructor_name, COUNT(c.course_id) AS total... 0 row(s) affected 0.016 sec
67 22:22:24 CREATE VIEW StudentEnrollmentView AS SELECT s.name AS student_name, c.title AS course_title, e.enroll... Error Code: 1050. Table 'StudentEnrollmentView' already exists 0.000 sec
68 22:22:59 CREATE VIEW StudentEnrollmentView AS SELECT s.name AS student_name, c.title AS course_title, e.enroll... Error Code: 1050. Table 'StudentEnrollmentView' already exists 0.000 sec
69 22:23:37 SELECT s.name AS student_name, c.title AS course_title, e.enrollment_date FROM Students s JOIN Enrollme... 10 row(s) returned 0.000 sec / 0.000 sec
70 22:23:37 SELECT i.name AS instructor_name, COUNT(c.course_id) AS total_courses FROM Instructors i JOIN Courses ... 3 row(s) returned 0.000 sec / 0.000 sec
29°C Haze
Search
ENG IN
22:24 28-06-2025


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
Navigator
SCHEMAS
Filter objects
sakila
sys
world
SQL File 7* SQL File 8* SQL File 9* SQL File 10* SQL File 11* SQL File 12* SQL File 13* SQL File 15* SQL File 16* SQL File 17*
Limit to 1000 rows
1 • CREATE INDEX idx_students_city ON Students(city);
2
3 • CREATE INDEX idx_enrollment_student ON EnrollmentDetails(student_id);
4 • CREATE INDEX idx_enrollment_course ON EnrollmentDetails(course_id);
5
6 • CREATE INDEX idx_courses_title ON Courses(title);
SQLAdditions
Jump to
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Administration Schemas
Context Help Snippets
Information
No object selected
Object Info Session
Output
Action Output
Time Action Message Duration / Fetch
69 22:23:37 SELECT s.name AS student_name, c.title AS course_title, e.enrollment_date FROM Students s JOIN Enrollme... 10 row(s) returned 0.000 sec / 0.000 sec
70 22:23:37 SELECT i.name AS instructor_name, COUNT(c.course_id) AS total_courses FROM Instructors i JOIN Courses ... 3 row(s) returned 0.000 sec / 0.000 sec
71 22:24:54 CREATE INDEX idx_students_city ON Students(city) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.047 sec
72 22:24:54 CREATE INDEX idx_enrollment_student ON EnrollmentDetails(student_id) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.047 sec
73 22:24:54 CREATE INDEX idx_enrollment_course ON EnrollmentDetails(course_id) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.016 sec
74 22:24:54 CREATE INDEX idx_courses_title ON Courses(title) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.031 sec
29°C Haze
Search
ENG IN
22:25 28-06-2025