2. mysql> CREATE DATABASE Collegedb;

Query OK, 1 row affected (0.02 sec)

mysql> USE Collegedb

Database changed

mysql> CREATE TABLE Student (

-> RollNo INT,

-> Name VARCHAR(50),

-> Age INT

-> );

Query OK, 0 rows affected (0.04 sec)

mysql> ALTER TABLE Student ADD Email VARCHAR(100);

Query OK, 0 rows affected (0.06 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> TRUNCATE TABLE Student;

Query OK, 0 rows affected (0.05 sec)

mysql> SHOW Tables;

+---------------------+

| Tables\_in\_collegedb |

+---------------------+

| student |

+---------------------+

1 row in set (0.01 sec)

mysql>

3. mysql> CREATE DATABASE CompanyDB;

ERROR 1007 (HY000): Can't create database 'companydb'; database exists

mysql> USE CompanyDB;

Database changed

mysql> drop database CompanyDB;

Query OK, 1 row affected (0.03 sec)

mysql> CREATE DATABASE CompanyDB;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB;

Database changed

mysql>

mysql> CREATE TABLE Department (

-> DeptID INT PRIMARY KEY,

-> DeptName VARCHAR(50)

-> );

Query OK, 0 rows affected (0.04 sec)

mysql> CREATE TABLE Employee (

-> EmpID INT PRIMARY KEY,

-> EmpName VARCHAR(50),

-> DeptID INT,

-> FOREIGN KEY (DeptID) REFERENCES Department(DeptID)

-> );

Query OK, 0 rows affected (0.05 sec)

mysql> INSERT INTO Department (DeptID, DeptName)

-> VALUES

-> (1, 'Computer Science'),

-> (2, 'Electronics'),

-> (3, 'Mechanical');

Query OK, 3 rows affected (0.01 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> INSERT INTO Employee (EmpID, EmpName, DeptID)

-> VALUES

-> (101, 'Alice', 1),

-> (102, 'Bob', 2),

-> (103, 'Charlie', 1),

-> (104, 'Diana', 3);

Query OK, 4 rows affected (0.01 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> SELECT \* FROM Employee;

+-------+---------+--------+

| EmpID | EmpName | DeptID |

+-------+---------+--------+

| 101 | Alice | 1 |

| 102 | Bob | 2 |

| 103 | Charlie | 1 |

| 104 | Diana | 3 |

+-------+---------+--------+

4 rows in set (0.00 sec)

mysql> SELECT EmpName, DeptID FROM Employee;

+---------+--------+

| EmpName | DeptID |

+---------+--------+

| Alice | 1 |

| Bob | 2 |

| Charlie | 1 |

| Diana | 3 |

+---------+--------+

4 rows in set (0.00 sec)

mysql> SELECT \* FROM Employee

-> WHERE DeptID = 1;

+-------+---------+--------+

| EmpID | EmpName | DeptID |

+-------+---------+--------+

| 101 | Alice | 1 |

| 103 | Charlie | 1 |

+-------+---------+--------+

2 rows in set (0.00 sec)

mysql>

4. mysql> CREATE DATABASE CompanyDB;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB;

Database changed

mysql> CREATE TABLE Department (

-> DeptID INT PRIMARY KEY,

-> DeptName VARCHAR(50)

-> );

Query OK, 0 rows affected (0.04 sec)

mysql> CREATE TABLE Employee (

-> EmpID INT PRIMARY KEY,

-> EmpName VARCHAR(50),

-> DeptID INT,

-> FOREIGN KEY (DeptID) REFERENCES Department(DeptID)

-> );

Query OK, 0 rows affected (0.04 sec)

mysql> INSERT INTO Department (DeptID, DeptName)

-> VALUES

-> (1, 'Computer Science'),

-> (2, 'Electronics'),

-> (3, 'Mechanical');

Query OK, 3 rows affected (0.01 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> INSERT INTO Employee (EmpID, EmpName, DeptID)

-> VALUES

-> (101, 'Alice', 1),

-> (102, 'Bob', 2),

-> (103, 'Charlie', 1),

-> (104, 'Diana', 3);

Query OK, 4 rows affected (0.01 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> select from Employee;

ERROR 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 'from Employee' at line 1

mysql> -- Update EmpName for EmpID = 101

mysql> UPDATE Employee

-> SET EmpName = 'Alicia'

-> WHERE EmpID = 101;

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT \* FROM Employee;

+-------+---------+--------+

| EmpID | EmpName | DeptID |

+-------+---------+--------+

| 101 | Alicia | 1 |

| 102 | Bob | 2 |

| 103 | Charlie | 1 |

| 104 | Diana | 3 |

+-------+---------+--------+

4 rows in set (0.00 sec)

mysql> UPDATE Employee

-> SET EmpName = 'Alicia'

-> WHERE EmpID = 101;

Query OK, 0 rows affected (0.00 sec)

Rows matched: 1 Changed: 0 Warnings: 0

mysql> SELECT \* FROM Employee;

+-------+---------+--------+

| EmpID | EmpName | DeptID |

+-------+---------+--------+

| 101 | Alicia | 1 |

| 102 | Bob | 2 |

| 103 | Charlie | 1 |

| 104 | Diana | 3 |

+-------+---------+--------+

4 rows in set (0.00 sec)

mysql> DELETE FROM Employee

-> WHERE EmpID = 102;

Query OK, 1 row affected (0.01 sec)

mysql> SELECT \* FROM Employee;

+-------+---------+--------+

| EmpID | EmpName | DeptID |

+-------+---------+--------+

| 101 | Alicia | 1 |

| 103 | Charlie | 1 |

| 104 | Diana | 3 |

+-------+---------+--------+

3 rows in set (0.00 sec)

mysql>

5. mysql> CREATE DATABASE CompanyDB\_Transactions;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_Transactions;

Database changed

mysql>

mysql> CREATE TABLE Department (

-> DeptID INT PRIMARY KEY,

-> DeptName VARCHAR(50)

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> SET autocommit = 0;

Query OK, 0 rows affected (0.00 sec)

mysql> INSERT INTO Department (DeptID, DeptName)

-> VALUES (1, 'Computer Science');

Query OK, 1 row affected (0.00 sec)

mysql>

mysql> COMMIT;

Query OK, 0 rows affected (0.01 sec)

mysql> SAVEPOINT sp1;

Query OK, 0 rows affected (0.00 sec)

mysql>

mysql> INSERT INTO Department (DeptID, DeptName)

-> VALUES (2, 'Mechanical');

Query OK, 1 row affected (0.00 sec)

mysql>

mysql> SAVEPOINT sp2;

Query OK, 0 rows affected (0.00 sec)

mysql>

mysql> INSERT INTO Department (DeptID, DeptName)

-> VALUES (3, 'Electrical');

Query OK, 1 row affected (0.00 sec)

mysql>

mysql> ROLLBACK TO sp1;

Query OK, 0 rows affected (0.00 sec)

mysql> SELECT \* FROM Department;

+--------+------------------+

| DeptID | DeptName |

+--------+------------------+

| 1 | Computer Science |

+--------+------------------+

1 row in set (0.00 sec)

mysql> INSERT INTO Department (DeptID, DeptName)

-> VALUES (4, 'Civil');

Query OK, 1 row affected (0.00 sec)

mysql>

mysql> ROLLBACK;

Query OK, 0 rows affected (0.01 sec)

mysql>

mysql> SELECT \* FROM Department;

+--------+------------------+

| DeptID | DeptName |

+--------+------------------+

| 1 | Computer Science |

+--------+------------------+

1 row in set (0.00 sec)

6. mysql> CREATE TABLE Department (

-> DeptID INT PRIMARY KEY,

-> DeptName VARCHAR(50)

-> );

ERROR 1050 (42S01): Table 'department' already exists

mysql> drop database department;

ERROR 1008 (HY000): Can't drop database 'department'; database doesn't exist

mysql> drop database Department;

ERROR 1008 (HY000): Can't drop database 'department'; database doesn't exist

mysql> CREATE DATABASE CompanyDB\_Permissions;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_Permissions;

Database changed

mysql>

mysql> CREATE TABLE Department (

-> DeptID INT PRIMARY KEY,

-> DeptName VARCHAR(50)

-> );

Query OK, 0 rows affected (0.04 sec)

mysql> CREATE USER 'user1'@'localhost' IDENTIFIED BY 'password123';

Query OK, 0 rows affected (0.03 sec)

mysql> GRANT SELECT, INSERT ON CompanyDB\_Permissions.Department TO 'user1'@'localhost';

Query OK, 0 rows affected (0.01 sec)

mysql> INSERT INTO Department (DeptID, DeptName) VALUES (1, 'Computer Science');

Query OK, 1 row affected (0.00 sec)

mysql> REVOKE INSERT ON CompanyDB\_Permissions.Department FROM 'user1'@'localhost';

Query OK, 0 rows affected (0.01 sec)

mysql> -- As user1:

mysql> INSERT INTO Department (DeptID, DeptName) VALUES (2, 'Mechanical');

Query OK, 1 row affected (0.00 sec)

mysql> SELECT \* FROM Department;

+--------+------------------+

| DeptID | DeptName |

+--------+------------------+

| 1 | Computer Science |

| 2 | Mechanical |

+--------+------------------+

2 rows in set (0.00 sec)

mysql>

7. mysql> USE CompanyDB\_Permissions;

Database changed

mysql>

mysql> CREATE TABLE Department (

-> DeptID INT PRIMARY KEY,

-> DeptName VARCHAR(50)

-> );

Query OK, 0 rows affected (0.04 sec)

mysql> CREATE USER 'user1'@'localhost' IDENTIFIED BY 'password123';

Query OK, 0 rows affected (0.03 sec)

mysql> GRANT SELECT, INSERT ON CompanyDB\_Permissions.Department TO 'user1'@'localhost';

Query OK, 0 rows affected (0.01 sec)

mysql> INSERT INTO Department (DeptID, DeptName) VALUES (1, 'Computer Science');

Query OK, 1 row affected (0.00 sec)

mysql> REVOKE INSERT ON CompanyDB\_Permissions.Department FROM 'user1'@'localhost';

Query OK, 0 rows affected (0.01 sec)

mysql> -- As user1:

mysql> INSERT INTO Department (DeptID, DeptName) VALUES (2, 'Mechanical');

Query OK, 1 row affected (0.00 sec)

mysql> SELECT \* FROM Department;

+--------+------------------+

| DeptID | DeptName |

+--------+------------------+

| 1 | Computer Science |

| 2 | Mechanical |

+--------+------------------+

2 rows in set (0.00 sec)

mysql> CREATE DATABASE CompanyDB\_Filter;

Query OK, 1 row affected (0.02 sec)

mysql> USE CompanyDB\_Filter;

Database changed

mysql>

mysql> CREATE TABLE Employee (

-> EmpID INT PRIMARY KEY,

-> EmpName VARCHAR(50),

-> DeptID INT

-> );

Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO Employee (EmpID, EmpName, DeptID) VALUES

-> (101, 'Alice', 1),

-> (102, 'Bob', 2),

-> (103, 'Aman', 1),

-> (104, 'Diana', 3),

-> (105, 'Aaron', 2),

-> (106, 'Anita', 1),

-> (107, 'Brian', 3);

Query OK, 7 rows affected (0.00 sec)

Records: 7 Duplicates: 0 Warnings: 0

mysql> SELECT EmpName FROM Employee WHERE DeptID = 1;

+---------+

| EmpName |

+---------+

| Alice |

| Aman |

| Anita |

+---------+

3 rows in set (0.00 sec)

8. mysql> CREATE DATABASE CompanyDB\_Example;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_Example;

Database changed

mysql> CREATE TABLE Product (

-> ProductID INT PRIMARY KEY,

-> ProductName VARCHAR(50),

-> Price DECIMAL(10,2)

-> );

Query OK, 0 rows affected (0.05 sec)

mysql>

mysql> CREATE TABLE Employee (

-> EmpID INT PRIMARY KEY,

-> EmpName VARCHAR(50),

-> DeptID INT

-> );

Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO Product (ProductID, ProductName, Price) VALUES

-> (1, 'Laptop', 1200.00),

-> (2, 'Mouse', 25.00),

-> (3, 'Keyboard', 45.00),

-> (4, 'Monitor', 150.00),

-> (5, 'USB Cable', 10.00);

Query OK, 5 rows affected (0.00 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql>

mysql> INSERT INTO Employee (EmpID, EmpName, DeptID) VALUES

-> (101, 'Alice', 1),

-> (102, 'Bob', 2),

-> (103, 'Charlie', 3),

-> (104, 'Diana', 1),

-> (105, 'Eve', 2);

Query OK, 5 rows affected (0.00 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql> SELECT ProductName, Price FROM Product WHERE Price BETWEEN 30 AND 150;

+-------------+--------+

| ProductName | Price |

+-------------+--------+

| Keyboard | 45.00 |

| Monitor | 150.00 |

+-------------+--------+

2 rows in set (0.00 sec)

mysql> SELECT EmpName FROM Employee WHERE DeptID IN (1, 2);

+---------+

| EmpName |

+---------+

| Alice |

| Bob |

| Diana |

| Eve |

+---------+

4 rows in set (0.00 sec)

mysql> SELECT AVG(Price) AS AveragePrice FROM Product;

+--------------+

| AveragePrice |

+--------------+

| 286.000000 |

+--------------+

1 row in set (0.00 sec)

9. mysql> CREATE DATABASE CompanyDB\_Example;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_Example;

Database changed

mysql> CREATE TABLE Product (

-> ProductID INT PRIMARY KEY,

-> ProductName VARCHAR(50),

-> Price DECIMAL(10,2)

-> );

Query OK, 0 rows affected (0.05 sec)

mysql>

mysql> CREATE TABLE Employee (

-> EmpID INT PRIMARY KEY,

-> EmpName VARCHAR(50),

-> DeptID INT

-> );

Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO Product (ProductID, ProductName, Price) VALUES

-> (1, 'Laptop', 1200.00),

-> (2, 'Mouse', 25.00),

-> (3, 'Keyboard', 45.00),

-> (4, 'Monitor', 150.00),

-> (5, 'USB Cable', 10.00);

Query OK, 5 rows affected (0.00 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql>

mysql> INSERT INTO Employee (EmpID, EmpName, DeptID) VALUES

-> (101, 'Alice', 1),

-> (102, 'Bob', 2),

-> (103, 'Charlie', 3),

-> (104, 'Diana', 1),

-> (105, 'Eve', 2);

Query OK, 5 rows affected (0.00 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql> SELECT ProductName, Price FROM Product WHERE Price BETWEEN 30 AND 150;

+-------------+--------+

| ProductName | Price |

+-------------+--------+

| Keyboard | 45.00 |

| Monitor | 150.00 |

+-------------+--------+

2 rows in set (0.00 sec)

mysql> SELECT EmpName FROM Employee WHERE DeptID IN (1, 2);

+---------+

| EmpName |

+---------+

| Alice |

| Bob |

| Diana |

| Eve |

+---------+

4 rows in set (0.00 sec)

mysql> SELECT AVG(Price) AS AveragePrice FROM Product;

+--------------+

| AveragePrice |

+--------------+

| 286.000000 |

+--------------+

1 row in set (0.00 sec)

mysql> CREATE DATABASE CompanyDB\_GroupBy;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_GroupBy;

Database changed

mysql> CREATE TABLE Employee (

-> EmpID INT PRIMARY KEY,

-> EmpName VARCHAR(50),

-> DeptID INT,

-> Salary DECIMAL(10,2)

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO Employee (EmpID, EmpName, DeptID, Salary) VALUES

-> (101, 'Alice', 1, 50000),

-> (102, 'Bob', 2, 60000),

-> (103, 'Charlie', 1, 55000),

-> (104, 'Diana', 3, 45000),

-> (105, 'Eve', 2, 70000);

Query OK, 5 rows affected (0.00 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql> SELECT DeptID, COUNT(\*) AS EmployeeCount

-> FROM Employee

-> GROUP BY DeptID;

+--------+---------------+

| DeptID | EmployeeCount |

+--------+---------------+

| 1 | 2 |

| 2 | 2 |

| 3 | 1 |

+--------+---------------+

3 rows in set (0.00 sec)

mysql> SELECT DeptID, COUNT(\*) AS EmployeeCount

-> FROM Employee

-> GROUP BY DeptID

-> HAVING COUNT(\*) > 1;

+--------+---------------+

| DeptID | EmployeeCount |

+--------+---------------+

| 1 | 2 |

| 2 | 2 |

+--------+---------------+

2 rows in set (0.00 sec)

mysql> SELECT EmpName, Salary

-> FROM Employee

-> ORDER BY Salary DESC;

+---------+----------+

| EmpName | Salary |

+---------+----------+

| Eve | 70000.00 |

| Bob | 60000.00 |

| Charlie | 55000.00 |

| Alice | 50000.00 |

| Diana | 45000.00 |

+---------+----------+

5 rows in set (0.00 sec)

10. mysql> CREATE DATABASE CompanyDB\_Subqueries;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_Subqueries;

Database changed

mysql> CREATE TABLE Department (

-> DeptID INT PRIMARY KEY,

-> DeptName VARCHAR(50)

-> );

Query OK, 0 rows affected (0.03 sec)

mysql>

mysql> CREATE TABLE Employee (

-> EmpID INT PRIMARY KEY,

-> EmpName VARCHAR(50),

-> DeptID INT,

-> FOREIGN KEY (DeptID) REFERENCES Department(DeptID)

-> );

Query OK, 0 rows affected (0.04 sec)

mysql> -- Department data

mysql> INSERT INTO Department (DeptID, DeptName) VALUES

-> (1, 'Computer Science'),

-> (2, 'Mechanical'),

-> (3, 'Electronics');

Query OK, 3 rows affected (0.00 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql>

mysql> -- Employee data

mysql> INSERT INTO Employee (EmpID, EmpName, DeptID) VALUES

-> (101, 'Alice', 1),

-> (102, 'Bob', 2),

-> (103, 'Charlie', 1),

-> (104, 'Diana', 3),

-> (105, 'Eve', 2);

Query OK, 5 rows affected (0.00 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql> SELECT EmpName

-> FROM Employee

-> WHERE DeptID IN (

-> SELECT DeptID

-> FROM Department

-> WHERE DeptName = 'Computer Science'

-> );

+---------+

| EmpName |

+---------+

| Alice |

| Charlie |

+---------+

2 rows in set (0.00 sec)

mysql> SELECT EmpName

-> FROM Employee e

-> WHERE EXISTS (

-> SELECT 1

-> FROM Department d

-> WHERE e.DeptID = d.DeptID

-> AND d.DeptName = 'Mechanical'

-> );

+---------+

| EmpName |

+---------+

| Bob |

| Eve |

+---------+

2 rows in set (0.00 sec)

mysql>

11. mysql> CREATE DATABASE CompanyDB\_Joins;

Query OK, 1 row affected (0.02 sec)

mysql> USE CompanyDB\_Joins;

Database changed

mysql> -- Department table

mysql> CREATE TABLE Department (

-> DeptID INT PRIMARY KEY,

-> DeptName VARCHAR(50)

-> );

Query OK, 0 rows affected (0.02 sec)

mysql>

mysql> -- Employee table

mysql> CREATE TABLE Employee (

-> EmpID INT PRIMARY KEY,

-> EmpName VARCHAR(50),

-> DeptID INT

-> );

Query OK, 0 rows affected (0.02 sec)

mysql> -- Departments

mysql> INSERT INTO Department VALUES

-> (1, 'Computer Science'),

-> (2, 'Mechanical'),

-> (3, 'Electronics');

Query OK, 3 rows affected (0.01 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql>

mysql> -- Employees

mysql> INSERT INTO Employee VALUES

-> (101, 'Alice', 1),

-> (102, 'Bob', 2),

-> (103, 'Charlie', 1),

-> (104, 'Diana', NULL),

-> (105, 'Eve', 5); -- Note: DeptID 5 does not exist

Query OK, 5 rows affected (0.00 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql> SELECT Employee.EmpName, Department.DeptName

-> FROM Employee, Department

-> WHERE Employee.DeptID = Department.DeptID;

+---------+------------------+

| EmpName | DeptName |

+---------+------------------+

| Alice | Computer Science |

| Bob | Mechanical |

| Charlie | Computer Science |

+---------+------------------+

3 rows in set (0.01 sec)

mysql> SELECT Employee.EmpName, Department.DeptName

-> FROM Employee

-> INNER JOIN Department ON Employee.DeptID = Department.DeptID;

+---------+------------------+

| EmpName | DeptName |

+---------+------------------+

| Alice | Computer Science |

| Bob | Mechanical |

| Charlie | Computer Science |

+---------+------------------+

3 rows in set (0.00 sec)

mysql>

mysql> SELECT Employee.EmpName, Department.DeptName

-> FROM Employee

-> LEFT OUTER JOIN Department ON Employee.DeptID = Department.DeptID;

+---------+------------------+

| EmpName | DeptName |

+---------+------------------+

| Alice | Computer Science |

| Bob | Mechanical |

| Charlie | Computer Science |

| Diana | NULL |

| Eve | NULL |

+---------+------------------+

5 rows in set (0.00 sec)

mysql> SELECT Employee.EmpName, Department.DeptName

-> FROM Employee

-> RIGHT OUTER JOIN Department ON Employee.DeptID = Department.DeptID;

+---------+------------------+

| EmpName | DeptName |

+---------+------------------+

| Charlie | Computer Science |

| Alice | Computer Science |

| Bob | Mechanical |

| NULL | Electronics |

+---------+------------------+

4 rows in set (0.00 sec)

mysql>

12. mysql> CREATE DATABASE CompanyDB\_ViewIndex;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_ViewIndex;

Database changed

mysql> CREATE TABLE Department (

-> DeptID INT PRIMARY KEY,

-> DeptName VARCHAR(50)

-> );

Query OK, 0 rows affected (0.03 sec)

mysql>

mysql> CREATE TABLE Employee (

-> EmpID INT PRIMARY KEY,

-> EmpName VARCHAR(50),

-> DeptID INT,

-> FOREIGN KEY (DeptID) REFERENCES Department(DeptID)

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO Department VALUES

-> (1, 'Computer Science'),

-> (2, 'Mechanical'),

-> (3, 'Electronics');

Query OK, 3 rows affected (0.00 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql>

mysql> INSERT INTO Employee VALUES

-> (101, 'Alice', 1),

-> (102, 'Bob', 2),

-> (103, 'Charlie', 1),

-> (104, 'Diana', 3),

-> (105, 'Eve', 2);

Query OK, 5 rows affected (0.00 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql> CREATE VIEW view\_name AS

-> SELECT column1, column2

-> FROM table\_name

-> WHERE condition;

ERROR 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 'condition' at line 4

mysql> CREATE VIEW view\_name AS

-> SELECT column1, column2

-> FROM table\_name

-> WHERE condition;

ERROR 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 'condition' at line 4

mysql> CREATE VIEW EmpDept AS

-> SELECT EmpName, DeptName

-> FROM Employee

-> INNER JOIN Department ON Employee.DeptID = Department.DeptID;

Query OK, 0 rows affected (0.02 sec)

mysql> SELECT \* FROM EmpDept;

+---------+------------------+

| EmpName | DeptName |

+---------+------------------+

| Alice | Computer Science |

| Charlie | Computer Science |

| Bob | Mechanical |

| Eve | Mechanical |

| Diana | Electronics |

+---------+------------------+

5 rows in set (0.00 sec)

mysql> CREATE INDEX idx\_deptid ON Employee(DeptID);

Query OK, 0 rows affected (0.06 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql>

13. mysql> CREATE INDEX idx\_deptid ON Employee(DeptID);

Query OK, 0 rows affected (0.06 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> CREATE DATABASE CompanyDB\_AutoInc;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_AutoInc;

Database changed

mysql> CREATE TABLE Employee (

-> EmpID INT AUTO\_INCREMENT,

-> EmpName VARCHAR(50),

-> DeptID INT,

-> PRIMARY KEY (EmpID)

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO Employee (EmpName, DeptID) VALUES

-> ('Alice', 1),

-> ('Bob', 2),

-> ('Charlie', 1);

Query OK, 3 rows affected (0.00 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> SELECT \* FROM Employee;

+-------+---------+--------+

| EmpID | EmpName | DeptID |

+-------+---------+--------+

| 1 | Alice | 1 |

| 2 | Bob | 2 |

| 3 | Charlie | 1 |

+-------+---------+--------+

3 rows in set (0.00 sec)

mysql>

14. mysql> CREATE DATABASE CompanyDB\_Loops;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_Loops;

Database changed

mysql> CREATE TABLE Employee (

-> EmpID INT AUTO\_INCREMENT,

-> EmpName VARCHAR(50),

-> DeptID INT,

-> PRIMARY KEY (EmpID)

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> DELIMITER //

mysql>

mysql> CREATE PROCEDURE InsertEmployeesRepeat()

-> BEGIN

-> DECLARE counter INT DEFAULT 1;

->

-> REPEAT

-> INSERT INTO Employee (EmpName, DeptID)

-> VALUES (CONCAT('Employee', counter), 1);

-> SET counter = counter + 1;

-> UNTIL counter > 5

-> END REPEAT;

-> END //

Query OK, 0 rows affected (0.01 sec)

mysql>

mysql> DELIMITER ;

mysql> CALL InsertEmployeesRepeat();

Query OK, 1 row affected (0.01 sec)

mysql> DELIMITER //

mysql>

mysql> CREATE PROCEDURE InsertEmployeesWhile()

-> BEGIN

-> DECLARE counter INT DEFAULT 1;

->

-> WHILE counter <= 5 DO

-> INSERT INTO Employee (EmpName, DeptID)

-> VALUES (CONCAT('Employee', counter), 2);

-> SET counter = counter + 1;

-> END WHILE;

-> END //

Query OK, 0 rows affected (0.01 sec)

mysql>

mysql> DELIMITER ;

mysql> DELIMITER //

mysql>

mysql> CREATE PROCEDURE InsertEmployeesWhile()

-> BEGIN

-> DECLARE counter INT DEFAULT 1;

->

-> WHILE counter <= 5 DO

-> INSERT INTO Employee (EmpName, DeptID)

-> VALUES (CONCAT('Employee', counter), 2);

-> SET counter = counter + 1;

-> END WHILE;

-> END //

ERROR 1304 (42000): PROCEDURE InsertEmployeesWhile already exists

mysql>

mysql> DELIMITER ;

mysql>

mysql> CALL InsertEmployeesWhile();

Query OK, 1 row affected (0.00 sec)

mysql> SELECT \* FROM Employee;

+-------+-----------+--------+

| EmpID | EmpName | DeptID |

+-------+-----------+--------+

| 1 | Employee1 | 1 |

| 2 | Employee2 | 1 |

| 3 | Employee3 | 1 |

| 4 | Employee4 | 1 |

| 5 | Employee5 | 1 |

| 6 | Employee1 | 2 |

| 7 | Employee2 | 2 |

| 8 | Employee3 | 2 |

| 9 | Employee4 | 2 |

| 10 | Employee5 | 2 |

+-------+-----------+--------+

10 rows in set (0.00 sec)

15. mysql> CREATE DATABASE CompanyDB\_CaseLoop;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_CaseLoop;

Database changed

mysql> CREATE TABLE Employee (

-> EmpID INT AUTO\_INCREMENT,

-> EmpName VARCHAR(50),

-> DeptID INT,

-> Salary DECIMAL(10,2),

-> PRIMARY KEY (EmpID)

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO Employee (EmpName, DeptID, Salary) VALUES

-> ('Alice', 1, 6000),

-> ('Bob', 2, 4500),

-> ('Charlie', 1, 2800),

-> ('Diana', 2, 3200);

Query OK, 4 rows affected (0.00 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> SELECT EmpName,

-> CASE

-> WHEN Salary > 5000 THEN 'High'

-> WHEN Salary BETWEEN 3000 AND 5000 THEN 'Medium'

-> ELSE 'Low'

-> END AS Salary\_Level

-> FROM Employee;

+---------+--------------+

| EmpName | Salary\_Level |

+---------+--------------+

| Alice | High |

| Bob | Medium |

| Charlie | Low |

| Diana | Medium |

+---------+--------------+

4 rows in set (0.00 sec)

mysql> DELIMITER //

mysql>

mysql> CREATE PROCEDURE InsertLoopEmployees()

-> BEGIN

-> DECLARE counter INT DEFAULT 1;

->

-> my\_loop: LOOP

-> INSERT INTO Employee (EmpName, DeptID, Salary)

-> VALUES (CONCAT('Employee', counter), 3, 4000);

->

-> SET counter = counter + 1;

->

-> IF counter > 5 THEN

-> LEAVE my\_loop;

-> END IF;

-> END LOOP;

-> END //

Query OK, 0 rows affected (0.02 sec)

mysql>

mysql> DELIMITER ;

mysql> CALL InsertLoopEmployees();

Query OK, 1 row affected (0.00 sec)

mysql> SELECT EmpID, EmpName, DeptID, Salary FROM Employee;

+-------+-----------+--------+---------+

| EmpID | EmpName | DeptID | Salary |

+-------+-----------+--------+---------+

| 1 | Alice | 1 | 6000.00 |

| 2 | Bob | 2 | 4500.00 |

| 3 | Charlie | 1 | 2800.00 |

| 4 | Diana | 2 | 3200.00 |

| 5 | Employee1 | 3 | 4000.00 |

| 6 | Employee2 | 3 | 4000.00 |

| 7 | Employee3 | 3 | 4000.00 |

| 8 | Employee4 | 3 | 4000.00 |

| 9 | Employee5 | 3 | 4000.00 |

+-------+-----------+--------+---------+

9 rows in set (0.00 sec)

16. mysql> CREATE DATABASE CompanyDB\_Procedure;

Query OK, 1 row affected (0.02 sec)

mysql> USE CompanyDB\_Procedure;

Database changed

mysql> CREATE TABLE Employee (

-> EmpID INT AUTO\_INCREMENT,

-> EmpName VARCHAR(50),

-> DeptID INT,

-> PRIMARY KEY (EmpID)

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> DELIMITER //

mysql>

mysql> CREATE PROCEDURE InsertEmployee (

-> IN emp\_name VARCHAR(50),

-> IN dept\_id INT

-> )

-> BEGIN

-> INSERT INTO Employee (EmpName, DeptID)

-> VALUES (emp\_name, dept\_id);

-> END //

Query OK, 0 rows affected (0.01 sec)

mysql>

mysql> DELIMITER ;

mysql> CALL InsertEmployee('John Doe', 1);

Query OK, 1 row affected (0.00 sec)

mysql> CALL InsertEmployee('Jane Smith', 2);

Query OK, 1 row affected (0.00 sec)

mysql> SELECT \* FROM Employee;

+-------+------------+--------+

| EmpID | EmpName | DeptID |

+-------+------------+--------+

| 1 | John Doe | 1 |

| 2 | Jane Smith | 2 |

+-------+------------+--------+

2 rows in set (0.00 sec)

17. mysql> CREATE DATABASE CompanyDB\_Function;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_Function;

Database changed

mysql> CREATE TABLE Employee (

-> EmpID INT AUTO\_INCREMENT,

-> EmpName VARCHAR(50),

-> DeptID INT,

-> Salary INT,

-> PRIMARY KEY (EmpID)

-> );

Query OK, 0 rows affected (0.04 sec)

mysql> INSERT INTO Employee (EmpName, DeptID, Salary) VALUES

-> ('Alice', 1, 6000),

-> ('Bob', 2, 4500),

-> ('Charlie', 1, 3000);

Query OK, 3 rows affected (0.00 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> DELIMITER //

mysql>

mysql> CREATE FUNCTION CalculateSalary(emp\_id INT)

-> RETURNS INT

-> DETERMINISTIC

-> BEGIN

-> DECLARE emp\_salary INT;

-> SELECT Salary INTO emp\_salary FROM Employee WHERE EmpID = emp\_id;

-> RETURN emp\_salary;

-> END //

Query OK, 0 rows affected (0.01 sec)

mysql>

mysql> DELIMITER ;

mysql> SELECT CalculateSalary(1);

+--------------------+

| CalculateSalary(1) |

+--------------------+

| 6000 |

+--------------------+

1 row in set (0.00 sec)

18. mysql> CREATE DATABASE CompanyDB\_Cursor;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_Cursor;

Database changed

mysql> CREATE TABLE Employee (

-> EmpID INT AUTO\_INCREMENT,

-> EmpName VARCHAR(50),

-> DeptID INT,

-> PRIMARY KEY (EmpID)

-> );

Query OK, 0 rows affected (0.03 sec)

mysql>

mysql> INSERT INTO Employee (EmpName, DeptID) VALUES

-> ('Alice', 1),

-> ('Bob', 2),

-> ('Charlie', 1),

-> ('Diana', 3);

Query OK, 4 rows affected (0.00 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> DELIMITER //

mysql>

mysql> CREATE PROCEDURE ShowEmployeeNames()

-> BEGIN

-> DECLARE done INT DEFAULT FALSE;

-> DECLARE emp\_name VARCHAR(50);

-> DECLARE employee\_cursor CURSOR FOR SELECT EmpName FROM Employee;

-> DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = TRUE;

->

-> OPEN employee\_cursor;

->

-> read\_loop: LOOP

-> FETCH employee\_cursor INTO emp\_name;

-> IF done THEN

-> LEAVE read\_loop;

-> END IF;

-> -- Output to client (or insert into another table if needed)

-> SELECT emp\_name AS EmployeeName;

-> END LOOP;

->

-> CLOSE employee\_cursor;

-> END //

Query OK, 0 rows affected (0.01 sec)

mysql>

mysql> DELIMITER ;

mysql> CALL ShowEmployeeNames();

+--------------+

| EmployeeName |

+--------------+

| Alice |

+--------------+

1 row in set (0.00 sec)

+--------------+

| EmployeeName |

+--------------+

| Bob |

+--------------+

1 row in set (0.01 sec)

+--------------+

| EmployeeName |

+--------------+

| Charlie |

+--------------+

1 row in set (0.01 sec)

+--------------+

| EmployeeName |

+--------------+

| Diana |

+--------------+

1 row in set (0.02 sec)

Query OK, 0 rows affected (0.02 sec)

mysql>

19. mysql> CREATE DATABASE CompanyDB\_Trigger;

Query OK, 1 row affected (0.01 sec)

mysql> USE CompanyDB\_Trigger;

Database changed

mysql> -- Employee Table

mysql> CREATE TABLE Employee (

-> EmpID INT AUTO\_INCREMENT,

-> EmpName VARCHAR(50),

-> DeptID INT,

-> PRIMARY KEY (EmpID)

-> );

Query OK, 0 rows affected (0.03 sec)

mysql>

mysql> -- AuditLog Table

mysql> CREATE TABLE AuditLog (

-> LogID INT AUTO\_INCREMENT,

-> Action VARCHAR(10),

-> EmpID INT,

-> Date DATETIME,

-> PRIMARY KEY (LogID)

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> DELIMITER //

mysql>

mysql> CREATE TRIGGER EmployeeInsert

-> AFTER INSERT ON Employee

-> FOR EACH ROW

-> BEGIN

-> INSERT INTO AuditLog (Action, EmpID, Date)

-> VALUES ('INSERT', NEW.EmpID, NOW());

-> END //

Query OK, 0 rows affected (0.02 sec)

mysql>

mysql> DELIMITER ;

mysql> INSERT INTO Employee (EmpName, DeptID) VALUES

-> ('Alice', 1),

-> ('Bob', 2);

Query OK, 2 rows affected (0.01 sec)

Records: 2 Duplicates: 0 Warnings: 0

mysql> SELECT \* FROM AuditLog;

+-------+--------+-------+---------------------+

| LogID | Action | EmpID | Date |

+-------+--------+-------+---------------------+

| 1 | INSERT | 1 | 2025-07-01 00:52:05 |

| 2 | INSERT | 2 | 2025-07-01 00:52:05 |

+-------+--------+-------+---------------------+

2 rows in set (0.00 sec)

mysql>

20.

mysql> SELECT REPLACE('Hello World', 'World', 'MySQL');

+------------------------------------------+

| REPLACE('Hello World', 'World', 'MySQL') |

+------------------------------------------+

| Hello MySQL |

+------------------------------------------+

1 row in set (0.00 sec)

mysql> SELECT REPEAT('Hello ', 3);

+---------------------+

| REPEAT('Hello ', 3) |

+---------------------+

| Hello Hello Hello |

+---------------------+

1 row in set (0.00 sec)

mysql> SELECT REVERSE('MySQL');

+------------------+

| REVERSE('MySQL') |

+------------------+

| LQSyM |

+------------------+

1 row in set (0.00 sec)

mysql> SELECT RIGHT('Hello World', 5);

+-------------------------+

| RIGHT('Hello World', 5) |

+-------------------------+

| World |

+-------------------------+

1 row in set (0.00 sec)

mysql> SELECT LEFT('Hello World', 5);

+------------------------+

| LEFT('Hello World', 5) |

+------------------------+

| Hello |

+------------------------+

1 row in set (0.00 sec)

mysql> SELECT RPAD('Hello', 10, '!');

+------------------------+

| RPAD('Hello', 10, '!') |

+------------------------+

| Hello!!!!! |

+------------------------+

1 row in set (0.00 sec)

mysql> SELECT LPAD('Hello', 10, '!');

+------------------------+

| LPAD('Hello', 10, '!') |

+------------------------+

| !!!!!Hello |

+------------------------+

1 row in set (0.00 sec)

mysql>