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COURSE CODE:CSA 0504

EX. No. 1 – DDL Commands using CREATE, ALTER, TRUNCATE, and DROP

```
MySQL 8.0 Command Line Cli  X + ▾
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 11
Server version: 8.0.42 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> USE collegeDB;
Database changed
mysql> CREATE TABLE Student(
    -> RollNo INT,
    -> Name VARCHAR(50),
    -> Age INT
    -> );
Query OK, 0 rows affected (0.27 sec)

mysql> DESC STUDENT;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| RollNo | int    | YES  |     | NULL    |       |
| Name   | varchar(50) | YES  |     | NULL    |       |
| Age    | int    | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+
3 rows in set (0.09 sec)

mysql> |
```



```
MySQL 8.0 Command Line Cli  X + ▾
mysql> ALTER TABLE Student ADD EmailVARCHAR(100);
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 '(100)' at line 1
mysql> ALTER TABLE Student ADD Email VARCHAR(100);
Query OK, 0 rows affected (0.10 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> DESC STUDENT;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| RollNo | int    | YES  |     | NULL    |       |
| Name   | varchar(50) | YES  |     | NULL    |       |
| Age    | int    | YES  |     | NULL    |       |
| Email  | varchar(100) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

mysql> TRUNCATE TABLE Student;
Query OK, 0 rows affected (0.04 sec)

mysql> DESC STUDENT;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| RollNo | int    | YES  |     | NULL    |       |
| Name   | varchar(50) | YES  |     | NULL    |       |
| Age    | int    | YES  |     | NULL    |       |
| Email  | varchar(100) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

mysql>
```

```

4 rows in set (0.01 sec)

mysql> DROP TABLE Student;
Query OK, 0 rows affected (0.03 sec)

mysql> DESC STUDENT;
ERROR 1146 (42S02): Table 'collegedb.student' doesn't exist
mysql> |

```

EX. No. 2 – DDL Commands with Constraints

MySQL 8.0 Command Line Cli X + v

Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 14
Server version: 8.0.42 MySQL Community Server - GPL
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owners.
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

```

mysql> USE CollegeDB;
Database changed
mysql> CREATE TABLE Department (
    -> DeptID INT PRIMARY KEY,
    -> DeptName VARCHAR(50)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> DESC DEPARTMENT;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key  | Default | Extra |
+-----+-----+-----+-----+-----+
| DeptID | int    | NO   | PRI   | NULL    |       |
| DeptName | varchar(50) | YES  |       | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)

mysql>

```

MySQL 8.0 Command Line Cli X + v

```

mysql> DESC DEPARTMENT;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key  | Default | Extra |
+-----+-----+-----+-----+-----+
| DeptID | int    | NO   | PRI   | NULL    |       |
| DeptName | varchar(50) | YES  |       | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> CREATE TABLE Product (
    -> ProductID INT PRIMARY KEY,
    -> Price DECIMAL (10,2) CHECK (Price>0)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> DESC DEPARTMENT;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key  | Default | Extra |
+-----+-----+-----+-----+-----+
| DeptID | int    | NO   | PRI   | NULL    |       |
| DeptName | varchar(50) | YES  |       | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)

mysql> DESC PRODUCT;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key  | Default | Extra |
+-----+-----+-----+-----+-----+
| ProductID | int    | NO   | PRI   | NULL    |       |
| Price    | decimal(10,0) | YES  |       | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql>

```

```

MySQL 8.0 Command Line Cli + ▾

mysql> DESC ORDER;
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 'ORDER' at line 1
mysql> DESC ORDERS
-> DESC ORDERS;
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 'DESC ORDERS' at line 2
mysql> DESC ORDERS;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| OrderID | int    | NO   | PRI | NULL    |       |
| Status   | varchar(20) | YES  |     | Pending  |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> CREATE TABLE Course (
-> CourseID INT PRIMARY KEY,
-> CourseName VARCHAR(50) NOT NULL
-> );
Query OK, 0 rows affected (0.04 sec)

mysql> DESC COURSE;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| CourseID | int    | NO   | PRI | NULL    |       |
| CourseName | varchar(50) | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql>

```

EX 3 DML Commands using INSERT and SELECT

```

MySQL 8.0 Command Line Cli + ▾

mysql> USE companydb;
Database changed
mysql> CREATE TABLE Department (
-> DeptID INT PRIMARY KEY,
-> DeptName VARCHAR(100)
-> );
ERROR 1050 (42S01): Table 'department' already exists
mysql> USE TABLE department;
ERROR 1049 (42000): Unknown database 'table'
mysql> USE department;
Database changed
mysql> INSERT INTO Department(DeptID,DeptName)
-> VALUES (1,'Computer Science');
ERROR 1146 (42S02): Table 'department.department' doesn't exist
mysql> CREATE TABLE department (
-> deptid INT PRIMARY KEY,
-> deptname VARCHAR (225)
-> );
Query OK, 0 rows affected (0.09 sec)

mysql> INSERT INTO department (deptid,deptname)
-> VALUES (1,'Computer Science');
Query OK, 1 row affected (0.01 sec)

mysql> DESC DEPARTMENT;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| deptid | int    | NO   | PRI | NULL    |       |
| deptname | varchar(225) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.04 sec)

mysql> |

```

```
MySQL 8.0 Command Line Cli + ▾
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| EmpID | int    | NO   | PRI | NULL    |       |
| EmpNmae | varchar(100) | YES  |     | NULL    |       |
| deptid | int    | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql> INSERT INTO Employee(EmpID,EmpNmae,deptid)
-> VALUES (101,'Alice',1);
Query OK, 1 row affected (0.00 sec)

mysql> DESC EMPLOYEE;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| EmpID | int    | NO   | PRI | NULL    |       |
| EmpNmae | varchar(100) | YES  |     | NULL    |       |
| deptid | int    | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> DESC EMPLOYEE;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| EmpID | int    | NO   | PRI | NULL    |       |
| EmpNmae | varchar(100) | YES  |     | NULL    |       |
| deptid | int    | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> |

```

```
MySQL 8.0 Command Line Cli + ▾
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| EmpID | int    | NO   | PRI | NULL    |       |
| EmpNmae | varchar(100) | YES  |     | NULL    |       |
| deptid | int    | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> SELECT * FROM Employee;
+-----+-----+-----+
| EmpID | EmpNmae | deptid |
+-----+-----+-----+
| 101  | Alice   | 1      |
+-----+-----+-----+
1 row in set (0.01 sec)

mysql> SELECT EmpNmae,deptid FROM Employee;
+-----+-----+
| EmpNmae | deptid |
+-----+-----+
| Alice   | 1      |
+-----+-----+
1 row in set (0.00 sec)

mysql> SELECT*FROM Employee
-> WHERE deptid=1;
+-----+-----+-----+
| EmpID | EmpNmae | deptid |
+-----+-----+-----+
| 101  | Alice   | 1      |
+-----+-----+-----+
1 row in set (0.01 sec)

mysql> |

```

EX. No. 4 – DML Commands using UPDATE and DELETE

```
MySQL 8.0 Command Line Cli + ×
+-----+
1 row in set (0.01 sec)

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> DESC EMPLOYEE;
+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| EmpID | int       | NO   | PRI | NULL    |       |
| EmpName | varchar(100) | YES  |     | NULL    |       |
| deptid | int       | YES  | MUL | NULL    |       |
+-----+
3 rows in set (0.01 sec)

mysql> DELETE FROM Employee
-> WHERE EmpID =101;
Query OK, 1 row affected (0.01 sec)

mysql> DESC EMPLOYEE;
+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| EmpID | int       | NO   | PRI | NULL    |       |
| EmpName | varchar(100) | YES  |     | NULL    |       |
| deptid | int       | YES  | MUL | NULL    |       |
+-----+
3 rows in set (0.01 sec)

mysql> |
```

EX. No. 5 – TCL Commands: COMMIT, SAVEPOINT, ROLLBACK

```
MySQL 8.0 Command Line Cli + ×
+-----+
mysql> USE department;
Database changed
mysql> INSERT INTO department (deptid, deptname) VALUES (2,'Mechanical');
Query OK, 1 row affected (0.18 sec)

mysql> DESC DEPARTMENT;
+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| deptid | int       | NO   | PRI | NULL    |       |
| deptname | varchar(225) | YES  |     | NULL    |       |
+-----+
2 rows in set (0.04 sec)

mysql> COMMIT;
Query OK, 0 rows affected (0.01 sec)

mysql> DESC SEPARTMENT;
ERROR 1146 (42S02): Table 'department.department' doesn't exist
mysql> DESC DEPARTMENT;
+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| deptid | int       | NO   | PRI | NULL    |       |
| deptname | varchar(225) | YES  |     | NULL    |       |
+-----+
2 rows in set (0.00 sec)

mysql> SAVEPOINT spl;
Query OK, 0 rows affected (0.00 sec)

mysql> INSERT INTO department (deptid,deptname) VALUES(3,'Electrical');
Query OK, 1 row affected (0.01 sec)
```

```
MySQL 8.0 Command Line Cli  + | ▾
2 rows in set (0.01 sec)

mysql> SELECT * FROM department;
+-----+-----+
| deptid | deptname |
+-----+-----+
| 1 | Computer Science |
| 2 | Mechanical |
| 3 | Electrical |
+-----+
3 rows in set (0.00 sec)

mysql> ROLLBACK TO spl;
ERROR 1305 (42000): SAVEPOINT spl does not exist
mysql> BEGIN;
Query OK, 0 rows affected (0.00 sec)

mysql> SAVEPOINT spl;
Query OK, 0 rows affected (0.00 sec)

mysql> ROLLBACK TO spl;
Query OK, 0 rows affected (0.00 sec)

mysql> DESC DEPARTMENT;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| deptid | int    | NO   | PRI | NULL    |          |
| deptname | varchar(225) | YES  |     | NULL    |          |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> SELECT * FROMM department;
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 'FROMM department' at line 1
mysql> |
```

```
MySQL 8.0 Command Line Cli  + | ▾
mysql> DESC DEPARTMENT;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| deptid | int    | NO   | PRI | NULL    |          |
| deptname | varchar(225) | YES  |     | NULL    |          |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> SELECT * FROMM department;
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 'FROMM department' at line 1
mysql> SELECT * FROM department;
+-----+-----+
| deptid | deptname |
+-----+-----+
| 1 | Computer Science |
| 2 | Mechanical |
| 3 | Electrical |
+-----+
3 rows in set (0.00 sec)

mysql> ROLLBACK;
Query OK, 0 rows affected (0.00 sec)

mysql> SELECT * FROM DEPARTMENT;
+-----+-----+
| deptid | deptname |
+-----+-----+
| 1 | Computer Science |
| 2 | Mechanical |
| 3 | Electrical |
+-----+
3 rows in set (0.00 sec)

mysql>
```

EX. No. 6 – DCL Commands: GRANT and REVOKE

```
MySQL 8.0 Command Line Cli  +  ▾

mysql> CREATE DATABASE University;
Query OK, 1 row affected (0.02 sec)

mysql> USE University;
Database changed
mysql> CREATE TABLE department (
    -> deptid INT PRIMARY KEY;
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 '' at line 2
mysql> CREATE TABLE Department (
    -> deptid INT PRIMARY KEY,
    -> deptname VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.09 sec)

mysql> CREATE USER 'user1'@'localhost' IDENTIFIED BY 'password123';
Query OK, 0 rows affected (0.06 sec)

mysql> DESC DEPARTMENT;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| deptid | int    | NO   | PRI | NULL    |       |
| deptname | varchar(100) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)

mysql> SELECT * FROM DEPARTMENT;
Empty set (0.00 sec)

mysql> SELECT * FROM Department;
Empty set (0.00 sec)
```

```
MySQL 8.0 Command Line Cli  +  ▾

ERROR 1146 (42S02): Table 'university.university' doesn't exist
mysql> DESC UNIVERSITY;
ERROR 1146 (42S02): Table 'university.university' doesn't exist
mysql> USE UNIVERSITY;
Database changed
mysql> DESC UNIVERSITY;
ERROR 1146 (42S02): Table 'university.university' doesn't exist
mysql> DESC UNIVERSITY.DEPARTMENT;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| deptid | int    | NO   | PRI | NULL    |       |
| deptname | varchar(100) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> SELECT * FROM UNIVERSITY.DEPARTMENT;
Empty set (0.00 sec)

mysql> SHOW GRANTS FOR 'user1'@'localhost';
+-----+
| Grants for user1@localhost |
+-----+
| GRANT USAGE ON *.* TO 'user1'@'localhost' |
| GRANT SELECT, INSERT ON 'university'.`department` TO 'user1'@'localhost' |
+-----+
2 rows in set (0.00 sec)

mysql> REVOKE INSERT ON UNIVERSITY.DEPARTMENT FROM 'user1'@'localhost';
Query OK, 0 rows affected (0.01 sec)

mysql> SHOW GRANT FOR 'user1'@'localhost';
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 'GRANT FOR 'user1'@'localhost'' at line 1
mysql> SHOW GRANTS FOR 'user1'@'localhost';
+-----+
| Grants for user1@localhost |
+-----+
| GRANT USAGE ON *.* TO 'user1'@'localhost' |
| GRANT SELECT ON 'university'.`department` TO 'user1'@'localhost' |
+-----+
2 rows in set (0.00 sec)

mysql>
```

EX. No. 7 – SELECT with Various Clauses: WHERE, Pattern Matching

```
MySQL 8.0 Command Line Cli + ▾
Your MySQL connection id is 17
Server version: 8.0.42 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE FilterDemoDB;
Query OK, 1 row affected (0.11 sec)

mysql> USE FilterDemoDB;
Database changed
mysql> CREATE TABLE Employee (
    -> EmpID INT PRIMARY KEY,
    -> EmpName VARCHAR(100),
    -> DeptID INT
    -> );
Query OK, 0 rows affected (0.15 sec)

mysql> DESC EMPLOYEE;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| EmpID | int    | NO   | PRI | NULL    |       |
| EmpName | varchar(100) | YES |     | NULL    |       |
| DeptID | int    | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+
3 rows in set (0.06 sec)

mysql> |
```

```
MySQL 8.0 Command Line Cli + ▾
| DeptID | int      | YES | NULL |       |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> SELECT * FROM EMPLOYEE;
+-----+-----+-----+
| EmpID | EmpName | DeptID |
+-----+-----+-----+
| 101  | Alice   | 1  |
| 102  | bob     | 2  |
| 103  | Anil    | 1  |
| 104  | catherine | 3  |
| 105  | Amit    | 2  |
| 106  | David   | 1  |
+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> 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 2
mysql> SELECT EmpName FROM Employee
    -> WHERE DeptID = 1;
+-----+
| EmpName |
+-----+
| Alice  |
| Anil   |
| David  |
+-----+
3 rows in set (0.00 sec)

mysql> |
```

```
MySQL 8.0 Command Line Cli + v Minimize
| 102 | bob      | 2 |
| 103 | Anil     | 1 |
| 104 | catherine | 3 |
| 105 | Amit     | 2 |
| 106 | David     | 1 |
+-----+
6 rows in set (0.00 sec)

mysql> 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 2
mysql> SELECT EmpName FROM Employee
-> WHERE DeptID = 1;
+-----+
| EmpName |
+-----+
| Alice   |
| Anil    |
| David   |
+-----+
3 rows in set (0.00 sec)

mysql> SELECT EmpName FROM Employee
-> WHERE EmpName LIKE 'A%';
+-----+
| EmpName |
+-----+
| Alice   |
| Anil    |
| Amit    |
+-----+
3 rows in set (0.01 sec)

mysql> |
```

EX 8 SELECT with Various Clauses: BETWEEN, IN, Aggregate Function

```
MySQL 8.0 Command Line Cli + v Minimize
mysql> CREATE DATABASE StoreDB;
Query OK, 1 row affected (0.01 sec)

mysql> USE StoreDB;
Database changed
mysql> CREATE TABLE Product (
-> ProductID INT PRIMARY KEY,
-> ProductName VARCHAR(100),
-> Price DECIMAL (10,2)
-> );
Query OK, 0 rows affected (0.06 sec)

mysql> CREATE TABLE Employee(
-> EmpID INT PRIMARY KEY,
-> EmpName VARCHAR(50),
-> DeptID INT,
-> Salary DECIMAL(10,2)
-> );
Query OK, 0 rows affected (0.04 sec)

mysql> DESC PRODUCT;
+-----+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ProductID | int   | NO   | PRI | NULL    |       |
| ProductName | varchar(100) | YES  | PRI | NULL    |       |
| Price | decimal(10,2) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql> DESC EMPLOYEE;
+-----+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
```

```
MySQL 8.0 Command Line Cli  X  +  ▾
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 ' 'Marker', 80)' at line 7
mysql> INSERT INTO Product VALUES
-> (1, 'Pen', 20),
-> (2, 'Pencil', 10),
-> (3, 'Notebook', 55),
-> (4, 'Bag', 200),
-> (5, 'Eraser', 5),
-> (6, 'Marker', 80);
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 ' 'Marker', 80)' at line 7
mysql> INSERT INTO Product VALUES
-> (1, 'Pen', 20),
-> (2, 'Pencil', 10),
-> (3, 'NoteBook', 55),
-> (4, 'Bag', 200),
-> (5, 'Eraser', 5),
-> (6, 'Marker', 80);
Query OK, 6 rows affected (0.01 sec)
Records: 6 Duplicates: 0 Warnings: 0

mysql> SELECT * FROM PRODUCT;
+-----+-----+-----+
| ProductID | ProductName | Price |
+-----+-----+-----+
| 1 | Pen | 20.00 |
| 2 | Pencil | 10.00 |
| 3 | NoteBook | 55.00 |
| 4 | Bag | 200.00 |
| 5 | Eraser | 5.00 |
| 6 | Marker | 80.00 |
+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> |
```

```
MySQL 8.0 Command Line Cli  X  +  ▾
mysql> SELECT * FROM PRODUCT;
+-----+-----+-----+
| ProductID | ProductName | Price |
+-----+-----+-----+
| 1 | Pen | 20.00 |
| 2 | Pencil | 10.00 |
| 3 | NoteBook | 55.00 |
| 4 | Bag | 200.00 |
| 5 | Eraser | 5.00 |
| 6 | Marker | 80.00 |
+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> INSERT INTO Employee VALUES
-> (101, 'Alice', 1, 30000),
-> (102, 'Bob', 2, 28000),
-> (103, 'Charlie', 3, 25000),
-> (104, 'David', 1, 35000),
-> (105, 'Eve', 2, 32000);
Query OK, 5 rows affected (0.01 sec)
Records: 5 Duplicates: 0 Warnings: 0

mysql> SELECT * FROM EMPLOYEE;
+-----+-----+-----+-----+
| EmpID | EmpName | DeptID | Salary |
+-----+-----+-----+-----+
| 101 | Alice | 1 | 30000.00 |
| 102 | Bob | 2 | 28000.00 |
| 103 | Charlie | 3 | 25000.00 |
| 104 | David | 1 | 35000.00 |
| 105 | Eve | 2 | 32000.00 |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

```
MySQL 8.0 Command Line Cli  X  +  v
mysql> SELECT ProductName, Price
-> FROM Product
-> WHERE Price BETWEEN 10 AND 100;
+-----+-----+
| ProductName | Price |
+-----+-----+
| Pen         | 20.00 |
| Pencil      | 10.00 |
| NoteBook    | 55.00 |
| Marker      | 80.00 |
+-----+-----+
4 rows in set (0.00 sec)

mysql> SELECT EmpName, DeptID
-> FROM Employee
-> WHERE DeptID IN (1,2);
+-----+-----+
| EmpName | DeptID |
+-----+-----+
| Alice   | 1 |
| Bob     | 2 |
| David   | 1 |
| Eve     | 2 |
+-----+-----+
4 rows in set (0.00 sec)

mysql> SELECT AVG(Price) AS AveragePrice FROM Product;
+-----+
| AveragePrice |
+-----+
| 61.666667 |
+-----+
1 row in set (0.01 sec)

mysql>
```

```
mysql> SELECT SUM(Salary) AS TotalSalary FROM Employee;
+-----+
| TotalSalary |
+-----+
| 150000.00 |
+-----+
1 row in set (0.00 sec)

mysql> SELECT MAX(Price) AS MaxPrice FROM Product;
+-----+
| MaxPrice |
+-----+
| 200.00 |
+-----+
1 row in set (0.01 sec)

mysql> |
```

EX. No. 9 – SELECT with Various Clauses: GROUP BY, HAVING, ORDER BY

```
MySQL 8.0 Command Line Cli × + ▾

mysql> CREATE DATABASE CompanyDB;
Query OK, 1 row affected (0.07 sec)

mysql> USE CompanyDB;
Database changed
mysql> CREATE TABLE Employee (
    -> EmpID INT PRIMARY KEY,
    -> EmpName VARCHAR(1000),
    -> DeptID INT,
    -> Salary DECIMAL(10,2)
    -> );
Query OK, 0 rows affected (0.06 sec)

mysql> DESC EMPLOYEE;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| EmpID | int    | NO   | PRI | NULL    |       |
| EmpName| varchar(1000) | YES  |     | NULL    |       |
| DeptID | int    | YES  |     | NULL    |       |
| Salary | decimal(10,2) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

mysql> INSERT INTO Employee VALUES
    -> (101,'Alice',1,30000),
    -> (102,'Bob',2,28000),
    -> (103,'Charlie',1,25000),
    -> (104,'David',3,22000),
    -> (105,'Eve',2,32000),
    -> (106,'Frank',1,26000),
    -> (107,'Grace',3,24000);
Query OK, 7 rows affected (0.02 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

```
MySQL 8.0 Command Line Cli × + ▾

+-----+-----+-----+-----+
| EmpID | EmpName | DeptID | Salary |
+-----+-----+-----+-----+
| 101 | Alice   | 1 | 30000.00 |
| 102 | Bob     | 2 | 28000.00 |
| 103 | Charlie | 1 | 25000.00 |
| 104 | David   | 3 | 22000.00 |
| 105 | Eve     | 2 | 32000.00 |
| 106 | Frank   | 1 | 26000.00 |
| 107 | Grace   | 3 | 24000.00 |
+-----+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> SELECT DeptID, COUNT(*) AS EmployeeCount
    -> FROM Employee
    -> GROUP BY DeptID;
+-----+-----+
| DeptID | EmployeeCount |
+-----+-----+
| 1      | 3           |
| 2      | 2           |
| 3      | 2           |
+-----+-----+
3 rows in set (0.01 sec)

mysql> SELECT DeptID, COUNT(*) AS EmployeeCount
    -> FROM Employee
    -> GROUP BY DeptID
    -> HAVING COUNT(*) > 2;
+-----+-----+
| DeptID | EmployeeCount |
+-----+-----+
| 1      | 3           |
+-----+-----+
1 row in set (0.00 sec)
```

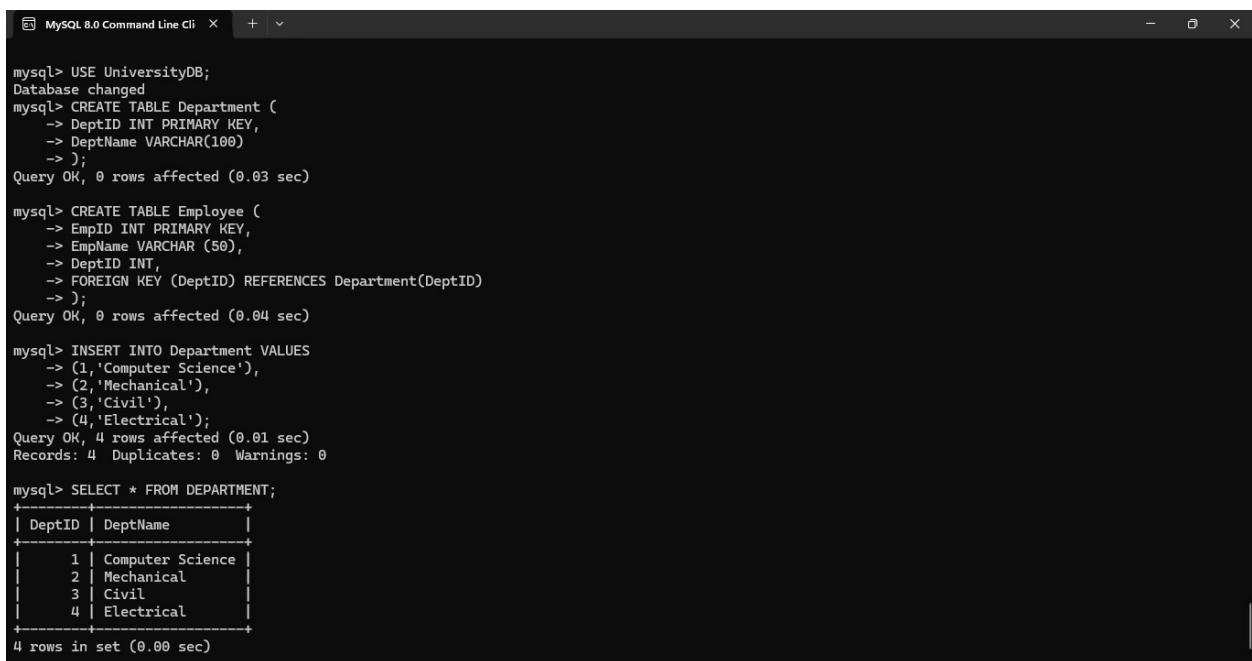
```

mysql> SELECT EmpName, Salary
-> FROM Employee
-> ORDER BY Salary DESC;
+-----+-----+
| EmpName | Salary |
+-----+-----+
| Eve     | 32000.00 |
| Alice   | 30000.00 |
| Bob     | 28000.00 |
| Frank   | 26000.00 |
| Charlie | 25000.00 |
| Grace   | 24000.00 |
| David   | 22000.00 |
+-----+-----+
7 rows in set (0.00 sec)

mysql> |

```

EX. No. 10 – Query with Subquery and Correlated Query



```

MySQL 8.0 Command Line Cli  × + ▾

mysql> USE UniversityDB;
Database changed
mysql> CREATE TABLE Department (
-> DeptID INT PRIMARY KEY,
-> DeptName VARCHAR(100)
-> );
Query OK, 0 rows affected (0.03 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 VALUES
-> (1,'Computer Science'),
-> (2,'Mechanical'),
-> (3,'Civil'),
-> (4,'Electrical');
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM DEPARTMENT;
+-----+-----+
| DeptID | DeptName    |
+-----+-----+
| 1     | Computer Science |
| 2     | Mechanical      |
| 3     | Civil           |
| 4     | Electrical      |
+-----+-----+
4 rows in set (0.00 sec)

```

```
MySQL 8.0 Command Line Cli  X + | v
mysql> INSERT INTO Employee VALUES
-> (101,'Alice',1),
-> (102,'Bob',2),
-> (103,'Charlie',1),
-> (104,'David',3),
-> (105,'Eve',2),
-> (106,'Frank',4);
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM EMPLOYEE
-> ;
+-----+-----+
| EmpID | EmpName | DeptID |
+-----+-----+
| 101  | Alice   |    1  |
| 102  | Bob     |    2  |
| 103  | Charlie |    1  |
| 104  | David   |    3  |
| 105  | Eve     |    2  |
| 106  | Frank   |    4  |
+-----+-----+
6 rows in set (0.00 sec)

mysql> SELECT EmpName
-> FROM Employee
-> WHERE DeptID IN (
->   SELECT DeptID
->   FROM Department
->   WHERE DeptName = 'Computer science'
-> );
+-----+
| EmpName |
+-----+
| Alice   |
+-----+
1 row in set (0.00 sec)

mysql> SELECT EmpName
-> FROM Employee
-> WHERE DeptID IN (
->   SELECT DeptID
->   FROM Department
->   WHERE DeptName = 'Computer science'
-> );
+-----+
| EmpName |
+-----+
| Alice   |
| Charlie |
+-----+
2 rows in set (0.01 sec)

mysql> SELECT EmpName
-> FROM Employee e
-> WHERE DeptID = (
->   SELECT DeptID
->   FROM Department d
->   WHERE d.DeptName = 'Electrical'
-> );
+-----+
| EmpName |
+-----+
| Frank   |
+-----+
1 row in set (0.01 sec)

mysql> |
```

EX. No. 11 – Query with Joins: EquiJoin, InnerJoin, OuterJoin

```
mysql> USE CompanyDB;
Database changed
mysql> SHOW TABLES;
+-----+
| Tables_in_companydb |
+-----+
| employee |
+-----+
1 row in set (0.03 sec)

mysql> DESC EMPLOYEE;
+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+
| EmpID | int    | NO   | PRI | NULL    |       |
| EmpName | varchar(1000) | YES  |     | NULL    |       |
| DeptID | int    | YES  |     | NULL    |       |
| Salary | decimal(10,2) | YES  |     | NULL    |       |
+-----+
4 rows in set (0.01 sec)

mysql> CREATE TABLE Department (
    -> DeptID INT PRIMARY KEY,
    -> DeptName VARCHAR(50)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> SELECT * FROM EMPLOYEE;
+-----+
| EmpID | EmpName | DeptID | Salary |
+-----+
| 101  | Alice   | 1      | 30000.00 |
| 102  | Bob     | 2      | 28000.00 |
| 103  | Charlie | 1      | 25000.00 |
+-----+
```

```
mysql> SELECT * FROM EMPLOYEE;
+-----+
| EmpID | EmpName | DeptID | Salary |
+-----+
| 101  | Alice   | 1      | 30000.00 |
| 102  | Bob     | 2      | 28000.00 |
| 103  | Charlie | 1      | 25000.00 |
| 104  | David   | 3      | 22000.00 |
| 105  | Eve     | 2      | 32000.00 |
| 106  | Frank   | 1      | 26000.00 |
| 107  | Grace   | 3      | 24000.00 |
+-----+
7 rows in set (0.01 sec)

mysql> INSERT INTO Department ( DeprID,DeptName ) VALUES
    -> (10,'HR'),
    -> (20,'IT'),
    -> (40,'Marketing');
ERROR 1054 (42S22): Unknown column 'DeprID' in 'field list'
mysql> DESC DEPARTMENT;
+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+
| DeptID | int    | NO   | PRI | NULL    |       |
| DeptName | varchar(50) | YES  |     | NULL    |       |
+-----+
2 rows in set (0.04 sec)

mysql> INSERT INTO Department ( DeptID,DeptName ) VALUES
    -> (10,'HR'),
    -> (20,'IT'),
    -> (40,'Marketing');
Query OK, 3 rows affected (0.03 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

```
MySQL 8.0 Command Line Cli  X  +  v
mysql> INSERT INTO Department ( DeptID, DeptName) VALUES
-> (1,'HR'),
-> (2,'IT'),
-> (3,'Marketing');
Query OK, 3 rows affected (0.07 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM DEPARTMENT;
+-----+-----+
| DeptID | DeptName |
+-----+-----+
|      1 | HR      |
|      2 | IT      |
|      3 | Marketing |
|     10 | HR      |
|     20 | IT      |
|     40 | Marketing |
+-----+-----+
6 rows in set (0.00 sec)

mysql> SELECT Employee.EmpName,Department.DeptName
-> FROM Employee,Department
-> WHERE Employee.DeptID =Department.DeptID;
+-----+-----+
| EmpName | DeptName |
+-----+-----+
| Alice   | HR      |
| Bob    | IT      |
| Charlie | HR      |
| David   | Marketing |
| Eve    | IT      |
| Frank   | HR      |
| Grace   | Marketing |
+-----+-----+
7 rows in set (0.01 sec)

7 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   | HR      |
| Bob    | IT      |
| Charlie | HR      |
| David   | Marketing |
| Eve    | IT      |
| Frank   | HR      |
| Grace   | Marketing |
+-----+-----+
7 rows in set (0.01 sec)
```

EX. No. 12 – Query with VIEW and INDEX

```
MySQL 8.0 Command Line Cli  X + | v
+-----+
| Frank   | HR      |
| Grace   | Marketing |
+-----+
7 rows in set (0.01 sec)

mysql> SELECT Employee.EmpName,Department.DeptName
-> FROM Employee
-> LEFT OUTER JOIN Department ON Employee.DeptID = Department.DeptID;
ERROR 1054 (42S22): Unknown column 'Department.DeptID' in 'on clause'
mysql> CREATE VIEW EmpDept AS
-> SELECT EmpName, DeptName
-> FROM Employee
-> INNER JOIN Department ON Employee.DeptID = Department.DeptID;
Query OK, 0 rows affected (0.26 sec)

mysql> SELECT * FROM EmpDept;
+-----+
| EmpName | DeptName |
+-----+
| Alice   | HR       |
| Bob     | IT       |
| Charlie | HR       |
| David   | Marketing |
| Eve     | IT       |
| Frank   | HR       |
| Grace   | Marketing |
+-----+
7 rows in set (0.06 sec)

mysql> CREATE INDEX idx_deptid ON Employee(DeptID);
Query OK, 0 rows affected (0.19 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> CREATE INDEX idx_deptid ON Employee(DeptID);
Query OK, 0 rows affected (0.19 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> SHOW INDEX FROM Employee;
+-----+
| Table    | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Inde
x_comment | Visible | Expression |
+-----+
| employee |      0 | PRIMARY |           1 | EmpID      | A          |        7 | NULL    | NULL    |      | BTREE      |          |          |
| employee |      1 | idx_deptid |           1 | DeptID     | A          |        3 | NULL    | NULL    | YES | BTREE      |          |          |
+-----+
2 rows in set (0.06 sec)

mysql>
```

EX. No. 13 – Query with AUTO_INCREMENT SEQUENCES

```
mysql> CREATE DATABASE Mycompany;
Query OK, 1 row affected (0.03 sec)

mysql> USE Mycompany;
Database changed

mysql> CREATE TABLE EMPLOYEE;
ERROR 4829 (HY000): A table must have at least one visible column.

mysql> CREATE TABLE EMPLOYEE (
    -> EmpID INT AUTO_INCREMENT,
    -> EmpName VARCHAR(50),
    -> DeptID INT,
    -> PRIMARY KEY (EmpID)
    -> );
ERROR 1864 (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 'IN AUTO_INCREMENT,
EmpName VARCHAR(50),
DeptID INT,
PRIMARY KEY (EmpID)
)' at line 2

mysql> CREATE TABLE EMPLOYEE (
    -> EmpID INT AUTO_INCREMENT,
    -> EmpName VARCHAR(50),
    -> DeptID INT,
    -> PRIMARY KEY (EmpID)
    -> );
Query OK, 0 rows affected (0.12 sec)

mysql> DESC EMPLOYEE;
+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key  | Default | Extra       |
+-----+-----+-----+-----+-----+
| EmpID | int   | NO   | PRI   | NULL    | auto_increment |
| EmpName| varchar(50)| YES  |        | NULL    |              |
| DeptID | int   | YES  |        | NULL    |              |
+-----+-----+-----+-----+-----+

mysql> 
--> EmpID INT AUTO_INCREMENT,
--> EmpName VARCHAR(50),
--> DeptID INT,
--> PRIMARY KEY (EmpID)
--> );
Query OK, 0 rows affected (0.12 sec)

mysql> DESC EMPLOYEE;
+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key  | Default | Extra       |
+-----+-----+-----+-----+-----+
| EmpID | int   | NO   | PRI   | NULL    | auto_increment |
| EmpName| varchar(50)| YES  |        | NULL    |              |
| DeptID | int   | YES  |        | NULL    |              |
+-----+-----+-----+-----+-----+
3 rows in set (0.08 sec)

mysql> INSERT INTO EMPLOYEE (EmpName, DeptID) VALUES ('Alice',10);
Query OK, 1 row affected (0.03 sec)

mysql> INSERT INTO EMPLOYEE (EmpName, DeptID) VALUES ('Bob',20),
--> INSERT INTO EMPLOYEE (EmpName, DeptID) VALUES ('Charlie',30),
--> INSERT INTO EMPLOYEE (EmpName, DeptID) VALUES ('David',NULL);
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 'INSERT INTO EMPLOYEE (EmpName, DeptID) VALUES ('Charlie',30),
INSERT INTO EMPLOY' at line 2

mysql> SELECT * FROM EMPLOYEE;
+-----+-----+-----+
| EmpID | EmpName | DeptID |
+-----+-----+-----+
| 1     | Alice   |    10  |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

EX. No. 14 – Simple Programming using REPEAT and WHILE

```

MySQL 8.0 Command Line Cli  X + ▾
mysql> DROP DATABASE companydb;
Query OK, 3 rows affected (0.36 sec)

mysql> CREATE DATABASE Companydb;
Query OK, 1 row affected (0.01 sec)

mysql> USE Companydb;
Database changed
mysql> CREATE TABLE Employee (
    -> EmpID INT AUTO_INCREMENT PRIMARY KEY,
    -> EmpName VAECHAR(50),
    -> DeptID INT
    -> );
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 'VAECHAR(50),
DeptID INT
)' at line 3
mysql> CREATE TABLE Employee (
    -> EmpID INT AUTO_INCREMENT PRIMARY KEY,
    -> EmpName VARCHAR(50),
    -> DeptID INT
    -> );
Query OK, 0 rows affected (0.07 sec)

mysql> DESC EMPLOYEE;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key  | Default | Extra       |
+-----+-----+-----+-----+-----+
| EmpID | int    | NO   | PRI   | NULL    | auto_increment |
| EmpName| varchar(50)| YES  |       | NULL    |             |
| DeptID | int    | YES  |       | NULL    |             |
+-----+-----+-----+-----+-----+
3 rows in set (0.08 sec)

mysql> |

```

EX. No. 15 – Simple Programming using CASE and LOOP

```

MySQL 8.0 Command Line Cli  X + ▾
Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE Stall;
Query OK, 1 row affected (0.03 sec)

mysql> USE Stall;
Database changed
mysql> CREATE TABLE Employee (
    -> EmpID INT AUTO_INCREMENT PRIMARY KEY,
    -> EmpName VARCHAR (50),
    -> DeptID INT,
    -> Salary INT
    -> );
Query OK, 0 rows affected (0.06 sec)

mysql> CREATE PROCEDURE Loop_insert ()
    -> BEGIN
    -> DECLARE counter INT DEFAULT 1;
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 '' at line 3
mysql> INSERT INTO Employee (EmpName, DeptID,Salary) VALUES
    -> ('Employee1' , 3, 1000),
    -> ('Employee2' , 3, 2000),
    -> ('Employee3' , 3, 3000),
    -> ('Employee4' , 3, 4000),
    -> ('Employee5' , 3, 5000);
Query OK, 5 rows affected (0.17 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> |

```

```

MySQL 8.0 Command Line Cli  X  +  v

| 1 | Employee1 | 3 | 1000 |
| 2 | Employee2 | 3 | 2000 |
| 3 | Employee3 | 3 | 3000 |
| 4 | Employee4 | 3 | 4000 |
| 5 | Employee5 | 3 | 5000 |
+-----+-----+-----+
5 rows in set (0.08 sec)

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 |
+-----+-----+
| Employee1 | Low |
| Employee2 | Low |
| Employee3 | Medium |
| Employee4 | Medium |
| Employee5 | Medium |
+-----+-----+
5 rows in set (0.01 sec)

mysql> SET @counter = 1;
Query OK, 0 rows affected (0.01 sec)

mysql> LOOP
-> INSERT INTO Employee (EmpName,DeptID) VALUES ('Employee' + @counter,3);
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 'LOOP'
INSERT INTO Employee (EmpName,DeptID) VALUES ('Employee' + @counter,3)' at line 1
mysql>

```

EX. No. 16 – High-Level Programming Extensions – Procedures

```

MySQL 8.0 Command Line Cli  X  +  v

Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 28
Server version: 8.0.42 MySQL Community Server - GPL

Copyright (c) 2000, 2025, Oracle and/or its affiliates.

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE CompanyDB;
Query OK, 1 row affected (0.03 sec)

mysql> USE CompanyDB;
Database changed
mysql> CREATE TABLE Employee (
-> EmpID INT PRIMARY KEY,
-> EmpName VARCHAR (50),
-> DeptID INT
-> );
Query OK, 0 rows affected (0.19 sec)

mysql> DESC EMPLOYEE;
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key  | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| EmpID | int    | NO   | PRI  | NULL    |       |
| EmpName| varchar(50)| YES  |       | NULL    |       |
| DeptID | int    | YES  |       | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.12 sec)

```

EX. No. 17 – High-Level Programming Extensions – Function

```
MySQL 8.0 Command Line Cli  X  +  ▾
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 406
Server version: 8.0.42 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> USE COMPANY;
Database changed
mysql> DROP COMPANY;
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 'COMPANY' at line 1
mysql> DROP DATABASE COMPANY;
Query OK, 1 row affected (0.09 sec)

mysql> CREATE DATABASE CompanyDB;
ERROR 1007 (HY000): Can't create database 'companydb'; database exists
mysql> USE CompanyDB;
Database changed
mysql> SHOW TABLES;
+-----+
| Tables_in_companydb |
+-----+
| employee            |
+-----+
1 row in set (0.06 sec)

mysql> SELECT * FROM EMPLOYEE;
Empty set (0.00 sec)
```

```
MySQL 8.0 Command Line Cli  X  +  ▾
+-----+
| EmpID | int      | NO   | PRI | NULL  |
| EmpName | varchar(50) | YES  |     | NULL  |
| DeptID | int      | YES  |     | NULL  |
+-----+
3 rows in set (0.01 sec)

mysql> DROP TABLE Employee;
Query OK, 0 rows affected (0.03 sec)

mysql> CREATE TABLE Employee (
    >     EmpID INT PRIMARY KEY,
    >     EmpName VARCHAR(50),
    >     Salary INT
    > );
Query OK, 0 rows affected (0.04 sec)

mysql> INSERT INTO Employee (EmpID, EmpName, Salary) VALUES
    >     (1, 'John Doe', 50000),
    >     (2, 'Jane Smith', 60000),
    >     (3, 'Alice Johnson', 70000);
Query OK, 3 rows affected (0.02 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM Employee;
+-----+
| EmpID | EmpName      | Salary |
+-----+
| 1 | John Doe      | 50000 |
| 2 | Jane Smith    | 60000 |
| 3 | Alice Johnson | 70000 |
+-----+
3 rows in set (0.00 sec)

mysql> D
```

```
MySQL 8.0 Command Line Cli  X + | ▾
mysql> DELIMITER //
mysql>
mysql> CREATE FUNCTION CalculateSalary(emp_id INT)
--> RETURNS INT
--> DETERMINISTIC
--> BEGIN
-->     DECLARE salary INT;
-->     SELECT Salary INTO salary FROM Employee WHERE EmpID = emp_id;
-->     RETURN salary;
--> END //
Query OK, 0 rows affected (0.02 sec)

mysql> DELIMITER ;
mysql> SELECT CalculateSalary(1) AS Salary;
+-----+
| Salary |
+-----+
|    NULL |
+-----+
1 row in set (0.02 sec)

mysql> SELECT CalculateSalary(1) AS Salary;
+-----+
| Salary |
+-----+
|    NULL |
+-----+
1 row in set (0.00 sec)

mysql> SELECT CalculateSalary(2) AS Salary;
+-----+
| Salary |
+-----+
|    NULL |
+-----+
```

EX. No. 18 – High-Level Programming Extensions – Cursors

```
MySQL 8.0 Command Line Cli  X + | ▾
mysql> DELIMITER //
mysql>
mysql> CREATE FUNCTION CalculateSalary(emp_id INT)
--> RETURNS INT
--> DETERMINISTIC
--> BEGIN
-->     DECLARE salary INT;
-->     SELECT Salary INTO salary FROM Employee WHERE EmpID = emp_id;
-->     RETURN salary;
--> END //
ERROR 1304 (42000): FUNCTION CalculateSalary already exists
mysql>
mysql> DELIMITER ;
mysql> DELIMITER //
mysql>
mysql> CREATE PROCEDURE ShowAllEmployeeNames()
--> BEGIN
-->     DECLARE done INT DEFAULT 0;
-->     DECLARE emp_name VARCHAR(50);
-->     DECLARE employee_cursor CURSOR FOR SELECT EmpName FROM Employee;
-->     DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = 1;
-->
-->     OPEN employee_cursor;
-->
-->     read_loop: LOOP
-->         FETCH employee_cursor INTO emp_name;
-->         IF done THEN
-->             LEAVE read_loop;
-->         END IF;
-->         SELECT emp_name AS EmployeeName;
-->     END LOOP;
-->
-->     CLOSE employee_cursor;
--> END //
```

```

MySQL 8.0 Command Line Cli  X + ▾
-->      END IF;
-->      SELECT emp_name AS EmployeeName;
-->    END LOOP;
-->
-->    CLOSE employee_cursor;
--> END //
Query OK, 0 rows affected (0.01 sec)

mysql>
mysql> DELIMITER ;
mysql> CALL ShowAllEmployeeNames();
+-----+
| EmployeeName |
+-----+
| John Doe     |
+-----+
1 row in set (0.01 sec)

+-----+
| EmployeeName |
+-----+
| Jane Smith   |
+-----+
1 row in set (0.01 sec)

+-----+
| EmployeeName |
+-----+
| Alice Johnson|
+-----+
1 row in set (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

mysql> |

```

EX. No. 19 – High-Level Programming Extensions – Triggers

```

MySQL 8.0 Command Line Cli  X + ▾
--> BEGIN
-->   INSERT INTO AuditLog (Action, EmpID, Date)
-->   VALUES ('INSERT', NEW.EmpID, NOW());
--> END //
Query OK, 0 rows affected (0.02 sec)

mysql>
mysql> INSERT INTO Employee (EmpID, EmpName, Salary)
--> VALUES (101, 'David Miller', 55000);
--> );
--> DELIMITER ;
--> VALUES (101, 'David Miller', 55000);
--> END //
Query OK, 1 row affected (0.02 sec)

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 ')';
DELIMITER ;VALUES (101, 'David Miller', 55000);
END' at line 1
mysql> DELIMITER ;
mysql> INSERT INTO Employee (EmpID, EmpName, Salary)
--> VALUES (101, 'David Miller', 55000);
ERROR 1062 (23000): Duplicate entry '101' for key 'employee.PRIMARY'
mysql> INSERT INTO Employee (EmpID, EmpName, Salary)
--> VALUES (101, 'David Miller', 55000);
ERROR 1062 (23000): Duplicate entry '101' for key 'employee.PRIMARY'
mysql> SELECT * FROM AuditLog;
+-----+-----+-----+
| LogID | Action | EmpID | Date          |
+-----+-----+-----+
| 1     | INSERT | 101  | 2025-07-01 11:44:35 |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql> |

```

```
MySQL 8.0 Command Line Cli  X  +  ▾

mysql> CREATE TABLE AuditLog (
->     LogID INT AUTO_INCREMENT PRIMARY KEY,
->     Action VARCHAR(10),
->     EmpID INT,
->     Date DATETIME
-> );
Query OK, 0 rows affected (0.05 sec)

mysql> DESC AUDITLOG;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+
| LogID | int    | NO   | PRI | NULL    | auto_increment |
| Action | varchar(10) | YES  |     | NULL    |              |
| EmpID | int    | YES  |     | NULL    |              |
| Date  | datetime | YES  |     | NULL    |              |
+-----+-----+-----+-----+-----+
4 rows in set (0.01 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> INSERT INTO Employee (EmpID, EmpName, Salary)
-> VALUES (101, 'David Miller', 55000);
-> ;
```

EX. No. 20 – MySQL String Functions – REPLACE, REPEAT, REVERSE, RIGHT, LEFT, RPAD, LPAD

```
MySQL 8.0 Command Line Cli  X  +  ▾

mysql> CREATE DATABASE IF NOT EXISTS StringDemoDB;
Query OK, 1 row affected (0.01 sec)

mysql> USE StringDemoDB;
Database changed
mysql> CREATE TABLE DemoStrings (
    ->     SampleText VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql>
mysql> INSERT INTO DemoStrings (SampleText)
    -> VALUES ('Hello World'), ('MySQL Programming'), ('String Functions');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> DESC DemoStrings;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| SampleText | varchar(100) | YES |   | NULL |       |
+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> SELECT * FROM DemoStrings;
+-----+
| SampleText      |
+-----+
| Hello World    |
| MySQL Programming |
| String Functions |
+-----+
3 rows in set (0.00 sec)

mysql>
```

```
MySQL 8.0 Command Line Cli  X  +  ▾

+-----+
3 rows in set (0.00 sec)

mysql> SELECT REPLACE('Hello World', 'World', 'MySQL') AS Result;
+-----+
| Result      |
+-----+
| Hello MySQL |
+-----+
1 row in set (0.00 sec)

mysql> SELECT REPEAT('Hello ', 3) AS Result;
+-----+
| Result      |
+-----+
| Hello Hello Hello |
+-----+
1 row in set (0.00 sec)

mysql> SELECT REVERSE('MySQL') AS Result;
+-----+
| Result      |
+-----+
| LQ5yM |
+-----+
1 row in set (0.00 sec)

mysql> SELECT RIGHT('Hello World', 5) AS Result;
+-----+
| Result      |
+-----+
| World |
+-----+
1 row in set (0.00 sec)
```

```
MySQL 8.0 Command Line Cli  X + | v
3 rows in set (0.00 sec)

mysql> SELECT REPLACE('Hello World', 'World', 'MySQL') AS Result;
+-----+
| Result |
+-----+
| Hello MySQL |
+-----+
1 row in set (0.00 sec)

mysql> SELECT REPEAT('Hello ', 3) AS Result;
+-----+
| Result |
+-----+
| Hello Hello Hello |
+-----+
1 row in set (0.00 sec)

mysql> SELECT REVERSE('MySQL') AS Result;
+-----+
| Result |
+-----+
| LQSyM |
+-----+
1 row in set (0.00 sec)

mysql> SELECT RIGHT('Hello World', 5) AS Result;
+-----+
| Result |
+-----+
| World |
+-----+
1 row in set (0.00 sec)
```

```
MySQL 8.0 Command Line Cli  X  +  ▾

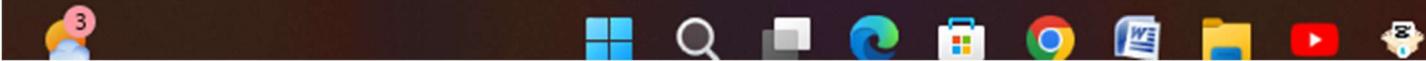
+-----+
3 rows in set (0.00 sec)

mysql> SELECT REPLACE('Hello World', 'World', 'MySQL') AS Result;
+-----+
| Result      |
+-----+
| Hello MySQL |
+-----+
1 row in set (0.00 sec)

mysql> SELECT REPEAT('Hello ', 3) AS Result;
+-----+
| Result      |
+-----+
| Hello Hello Hello |
+-----+
1 row in set (0.00 sec)

mysql> SELECT REVERSE('MySQL') AS Result;
+-----+
| Result |
+-----+
| LQSyM |
+-----+
1 row in set (0.00 sec)

mysql> SELECT RIGHT('Hello World', 5) AS Result;
+-----+
| Result |
+-----+
| World  |
+-----+
1 row in set (0.00 sec)
```



EX. No. 21 – MySQL String Functions – SPACE, SUBSTR, UPPER, LOWER, TRIM, LENGTH

```
MySQL 8.0 Command Line Cli + ▾
3 rows in set (0.01 sec)

mysql> SELECT id, SUBSTR(input_text, 1, 5) AS first_5_chars FROM text_samples;
+-----+-----+
| id | first_5_chars |
+-----+-----+
| 1 | Hel |
| 2 | mysql |
| 3 | D |
+-----+
3 rows in set (0.00 sec)

mysql> SELECT id, UPPER(input_text) AS uppercase_text FROM text_samples;
+-----+-----+
| id | uppercase_text |
+-----+-----+
| 1 | HELLO WORLD |
| 2 | MYSQL STRING FUNCTION |
| 3 | DATABASE |
+-----+
3 rows in set (0.00 sec)

mysql> SELECT id, LOWER(input_text) AS lowercase_text FROM text_samples;
+-----+-----+
| id | lowercase_text |
+-----+-----+
| 1 | hello world |
| 2 | mysql string function |
| 3 | database |
+-----+
3 rows in set (0.01 sec)

mysql> SELECT id, TRIM(input_text) AS trimmed_text FROM text_samples;
+-----+-----+
| id | trimmed_text |
+-----+
3 rows in set (0.01 sec)

MySQL 8.0 Command Line Cli + ▾
3 rows in set (0.01 sec)

mysql> SELECT id, SUBSTR(input_text, 1, 5) AS first_5_chars FROM text_samples;
+-----+-----+
| id | first_5_chars |
+-----+-----+
| 1 | Hel |
| 2 | mysql |
| 3 | D |
+-----+
3 rows in set (0.00 sec)

mysql> SELECT id, UPPER(input_text) AS uppercase_text FROM text_samples;
+-----+-----+
| id | uppercase_text |
+-----+-----+
| 1 | HELLO WORLD |
| 2 | MYSQL STRING FUNCTION |
| 3 | DATABASE |
+-----+
3 rows in set (0.00 sec)

mysql> SELECT id, LOWER(input_text) AS lowercase_text FROM text_samples;
+-----+-----+
| id | lowercase_text |
+-----+-----+
| 1 | hello world |
| 2 | mysql string function |
| 3 | database |
+-----+
3 rows in set (0.01 sec)

mysql> SELECT id, TRIM(input_text) AS trimmed_text FROM text_samples;
+-----+-----+
| id | trimmed_text |
+-----+
3 rows in set (0.01 sec)

MySQL 8.0 Command Line Cli + ▾
3 rows in set (0.00 sec)

mysql> SELECT id, LENGTH(input_text) AS text_length FROM text_samples;
+-----+-----+
| id | text_length |
+-----+-----+
| 1 |      15 |
| 2 |      21 |
| 3 |      15 |
+-----+
3 rows in set (0.00 sec)
```

EX. No. 22 – Database Connectivity Using PHP and MySQL

```
mysql> SELECT * FROM STUDENT
+----+-----+-----+
| id | name | grade |
+----+-----+-----+
| 1 | Alice | A |
| 2 | Bob | B |
| 3 | Charlie | A |
+----+-----+-----+
3 rows in set (0.01 sec)
```

EX. No. 23 – Case Scenario: MySQL Queries Implementation for Train Ticket Reservation System to Receive Tickets through Social Network

```
MySQL 8.0 Command Line Cli  X  +  v
Query OK, 1 row affected (0.01 sec)

mysql> USE TrainReservationDB;
Database changed
mysql> CREATE TABLE TicketReservation (
    -->     TicketID INT AUTO_INCREMENT PRIMARY KEY,
    -->     CustomerName VARCHAR(100),
    -->     TrainNumber VARCHAR(50),
    -->     DateOfJourney DATE,
    -->     SocialNetwork VARCHAR(100),
    -->     TicketStatus VARCHAR(50)
    --> );
Query OK, 0 rows affected (0.06 sec)

mysql> INSERT INTO TicketReservation
    --> (CustomerName, TrainNumber, DateOfJourney, SocialNetwork, TicketStatus)
    --> VALUES
    --> ('John Doe', '101', '2025-05-01', 'Facebook', 'Booked'),
    --> ('Alice Smith', '102A', '2025-05-03', 'Instagram', 'Booked'),
    --> ('Robert Lee', '103B', '2025-05-05', 'Twitter', 'Cancelled');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM TicketReservation;
+----+-----+-----+-----+-----+-----+
| TicketID | CustomerName | TrainNumber | DateOfJourney | SocialNetwork | TicketStatus |
+----+-----+-----+-----+-----+-----+
| 1 | John Doe | 101 | 2025-05-01 | Facebook | Booked |
| 2 | Alice Smith | 102A | 2025-05-03 | Instagram | Booked |
| 3 | Robert Lee | 103B | 2025-05-05 | Twitter | Cancelled |
+----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql>
```

EX. No. 24 – Case Scenario: MySQL Queries Implementation for College Admission Form

```

MySQL 8.0 Command Line Cli  X + ▾
-->     Email VARCHAR(100),
-->     AdmissionStatus VARCHAR(50)
--> );
Query OK, 0 rows affected (0.04 sec)

mysql> INSERT INTO AdmissionForm
--> (StudentName, Gender, DateOfBirth, CourseApplied, Email, AdmissionStatus)
--> VALUES
--> ('Riya Sharma', 'Female', '2004-07-15', 'B.Sc Computer Science', 'riya@example.com', 'Applied'),
--> ('Amit Verma', 'Male', '2003-11-22', 'BBA', 'amitv@example.com', 'Approved'),
--> ('Sneha Patel', 'Female', '2005-01-10', 'B.Com', 'sneha.p@example.com', 'Rejected');
Query OK, 3 rows affected (0.02 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> INSERT INTO AdmissionForm
--> (StudentName, Gender, DateOfBirth, CourseApplied, Email, AdmissionStatus)
--> VALUES
--> ('Riya Sharma', 'Female', '2004-07-15', 'B.Sc Computer Science', 'riya@example.com', 'Applied'),
--> ('Amit Verma', 'Male', '2003-11-22', 'BBA', 'amitv@example.com', 'Approved'),
--> ('Sneha Patel', 'Female', '2005-01-10', 'B.Com', 'sneha.p@example.com', 'Rejected');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM AdmissionForm;
+-----+-----+-----+-----+-----+-----+
| StudentID | StudentName | Gender | DateOfBirth | CourseApplied | Email           | AdmissionStatus |
+-----+-----+-----+-----+-----+-----+
| 1 | Riya Sharma | Female | 2004-07-15 | B.Sc Computer Science | riya@example.com | Applied          |
| 2 | Amit Verma | Male | 2003-11-22 | BBA | amitv@example.com | Approved          |
| 3 | Sneha Patel | Female | 2005-01-10 | B.Com | sneha.p@example.com | Rejected          |
| 4 | Riya Sharma | Female | 2004-07-15 | B.Sc Computer Science | riya@example.com | Applied          |
| 5 | Amit Verma | Male | 2003-11-22 | BBA | amitv@example.com | Approved          |
| 6 | Sneha Patel | Female | 2005-01-10 | B.Com | sneha.p@example.com | Rejected          |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

```

EX. No. 25 – Case Scenario: MySQL Queries Implementation for QR Enabled Automatic Bus Ticket Booking System

