```
Enter password: *******
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 8.0.37 MySQL Community Server - GPL

Copyright (c) 2000, 2024, Oracle and/or its affiliates.

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> show databases;
+--------------------+
| Database           |
+--------------------+
| college            |
| employee           |
| information_schema |
| lab_assignment     |
| mysql              |
| performance_schema |
| sakila             |
| sys                |
| world              |
+--------------------+
9 rows in set (0.00 sec)

mysql> use lab_assignment;
Database changed
mysql>    CREATE TABLE Emp (
    ->        Emp_No INT,
    ->        Emp_Name VARCHAR(50),
    ->        Designation VARCHAR(50),
    ->        Basic DECIMAL(10, 2),
    ->        DA DECIMAL(10, 2),
    ->        HRA DECIMAL(10, 2),
    ->        PF DECIMAL(10, 2),
    ->        Gross_Pay DECIMAL(10, 2),
    ->        Net_Pay DECIMAL(10, 2)
    ->    );
Query OK, 0 rows affected (0.06 sec)

mysql> INSERT INTO Emp (Emp_No, Emp_Name, Designation, Basic, DA, HRA, PF,
Gross_Pay, Net_Pay)
    -> VALUES
    -> (1, 'Alice Johnson', 'Manager', 20000.00, 4000.00, 3000.00, 1500.00, NULL,
NULL),
    -> (2, 'Bob Smith', 'Developer', 15000.00, 3000.00, 2500.00, 1200.00, NULL,
NULL),
    -> (3, 'Charlie Brown', 'Analyst', 18000.00, 3600.00, 2700.00, 1400.00, NULL,
NULL),
    -> (4, 'David White', 'Tester', 12000.00, 2400.00, 1800.00, 1000.00, NULL,
NULL),
    -> (5, 'Eva Green', 'HR', 17000.00, 3400.00, 2550.00, 1300.00, NULL, NULL);
Query OK, 5 rows affected (0.03 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

```
mysql> select * from emp;
+--------+---------------+-------------+----------+---------+---------+---------
+-----------+---------+
| Emp_No | Emp_Name      | Designation | Basic    | DA      | HRA     | PF      |
Gross_Pay | Net_Pay |
+--------+---------------+-------------+----------+---------+---------+---------
+-----------+---------+
|      1 | Alice Johnson | Manager     | 20000.00 | 4000.00 | 3000.00 | 1500.00 |
NULL |    NULL |
|      2 | Bob Smith     | Developer   | 15000.00 | 3000.00 | 2500.00 | 1200.00 |
NULL |    NULL |
|      3 | Charlie Brown | Analyst     | 18000.00 | 3600.00 | 2700.00 | 1400.00 |
NULL |    NULL |
|      4 | David White   | Tester      | 12000.00 | 2400.00 | 1800.00 | 1000.00 |
NULL |    NULL |
|      5 | Eva Green     | HR          | 17000.00 | 3400.00 | 2550.00 | 1300.00 |
NULL |    NULL |
+--------+---------------+-------------+----------+---------+---------+---------
+-----------+---------+
5 rows in set (0.00 sec)

mysql> UPDATE Emp
    -> SET Gross_Pay = Basic + DA + HRA,
    ->     Net_Pay = Gross_Pay - PF;
Query OK, 5 rows affected (0.02 sec)
Rows matched: 5  Changed: 5  Warnings: 0

mysql> select * from emp;
+--------+---------------+-------------+----------+---------+---------+---------
+-----------+-----------+
| Emp_No | Emp_Name      | Designation | Basic    | DA      | HRA     | PF      |
Gross_Pay | Net_Pay   |
+--------+---------------+-------------+----------+---------+---------+---------
+-----------+-----------+
|      1 | Alice Johnson | Manager     | 20000.00 | 4000.00 | 3000.00 | 1500.00 |
27000.00 | 25500.00 |
|      2 | Bob Smith     | Developer   | 15000.00 | 3000.00 | 2500.00 | 1200.00 |
20500.00 | 19300.00 |
|      3 | Charlie Brown | Analyst     | 18000.00 | 3600.00 | 2700.00 | 1400.00 |
24300.00 | 22900.00 |
|      4 | David White   | Tester      | 12000.00 | 2400.00 | 1800.00 | 1000.00 |
16200.00 | 15200.00 |
|      5 | Eva Green     | HR          | 17000.00 | 3400.00 | 2550.00 | 1300.00 |
22950.00 | 21650.00 |
+--------+---------------+-------------+----------+---------+---------+---------
+-----------+-----------+
5 rows in set (0.00 sec)

mysql> ALTER TABLE Emp ADD COLUMN DA DECIMAL(10, 2);
ERROR 1060 (42S21): Duplicate column name 'DA'
mysql>
mysql> UPDATE Emp
    -> SET DA = Basic * 0.20;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 5  Changed: 0  Warnings: 0

mysql> select * from emp;
+--------+---------------+-------------+----------+---------+---------+---------
+-----------+-----------+
```

```
| Emp_No | Emp_Name       | Designation | Basic     | DA       | HRA      | PF       |
Gross_Pay | Net_Pay   |
+--------+---------------+-------------+----------+---------+---------+--------
+-----------+----------+
|      1 | Alice Johnson | Manager     | 20000.00 | 4000.00 | 3000.00 | 1500.00 |
27000.00 | 25500.00 |
|      2 | Bob Smith     | Developer   | 15000.00 | 3000.00 | 2500.00 | 1200.00 |
20500.00 | 19300.00 |
|      3 | Charlie Brown | Analyst     | 18000.00 | 3600.00 | 2700.00 | 1400.00 |
24300.00 | 22900.00 |
|      4 | David White   | Tester      | 12000.00 | 2400.00 | 1800.00 | 1000.00 |
16200.00 | 15200.00 |
|      5 | Eva Green     | HR          | 17000.00 | 3400.00 | 2550.00 | 1300.00 |
22950.00 | 21650.00 |
+--------+---------------+-------------+----------+---------+---------+--------
+-----------+----------+
5 rows in set (0.00 sec)

mysql> ALTER TABLE Emp ADD COLUMN HRA DECIMAL(10, 2);
ERROR 1060 (42S21): Duplicate column name 'HRA'
mysql>
mysql> UPDATE Emp
    -> SET HRA = Basic * 0.15;
Query OK, 1 row affected (0.02 sec)
Rows matched: 5  Changed: 1  Warnings: 0

mysql> select * from emp;
+--------+---------------+-------------+----------+---------+---------+--------
+-----------+----------+
| Emp_No | Emp_Name      | Designation | Basic    | DA      | HRA     | PF      |
Gross_Pay | Net_Pay   |
+--------+---------------+-------------+----------+---------+---------+--------
+-----------+----------+
|      1 | Alice Johnson | Manager     | 20000.00 | 4000.00 | 3000.00 | 1500.00 |
27000.00 | 25500.00 |
|      2 | Bob Smith     | Developer   | 15000.00 | 3000.00 | 2250.00 | 1200.00 |
20500.00 | 19300.00 |
|      3 | Charlie Brown | Analyst     | 18000.00 | 3600.00 | 2700.00 | 1400.00 |
24300.00 | 22900.00 |
|      4 | David White   | Tester      | 12000.00 | 2400.00 | 1800.00 | 1000.00 |
16200.00 | 15200.00 |
|      5 | Eva Green     | HR          | 17000.00 | 3400.00 | 2550.00 | 1300.00 |
22950.00 | 21650.00 |
+--------+---------------+-------------+----------+---------+---------+--------
+-----------+----------+
5 rows in set (0.00 sec)

mysql> ALTER TABLE Emp ADD COLUMN PF DECIMAL(10, 2);
ERROR 1060 (42S21): Duplicate column name 'PF'
mysql>
mysql> UPDATE Emp
    -> SET PF = Basic * 0.10;
Query OK, 5 rows affected (0.01 sec)
Rows matched: 5  Changed: 5  Warnings: 0

mysql> select * from emp;
+--------+---------------+-------------+----------+---------+---------+--------
+-----------+----------+
| Emp_No | Emp_Name      | Designation | Basic    | DA      | HRA     | PF      |
```

```
Gross_Pay | Net_Pay   |
+--------+--------------+-------------+----------+---------+---------+---------
+-----------+----------+
|      1 | Alice Johnson | Manager     | 20000.00 | 4000.00 | 3000.00 | 2000.00 |
27000.00 | 25500.00 |
|      2 | Bob Smith     | Developer   | 15000.00 | 3000.00 | 2250.00 | 1500.00 |
20500.00 | 19300.00 |
|      3 | Charlie Brown | Analyst     | 18000.00 | 3600.00 | 2700.00 | 1800.00 |
24300.00 | 22900.00 |
|      4 | David White   | Tester      | 12000.00 | 2400.00 | 1800.00 | 1200.00 |
16200.00 | 15200.00 |
|      5 | Eva Green     | HR          | 17000.00 | 3400.00 | 2550.00 | 1700.00 |
22950.00 | 21650.00 |
+--------+--------------+-------------+----------+---------+---------+---------
+-----------+----------+
5 rows in set (0.00 sec)

mysql> ALTER TABLE Emp ADD COLUMN Gross_Pay DECIMAL(10, 2);
ERROR 1060 (42S21): Duplicate column name 'Gross_Pay'
mysql>
mysql> UPDATE Emp
    -> SET Gross_Pay = Basic + DA + HRA;
Query OK, 1 row affected (0.02 sec)
Rows matched: 5  Changed: 1  Warnings: 0

mysql> ALTER TABLE Emp ADD COLUMN Net_Pay DECIMAL(10, 2);
ERROR 1060 (42S21): Duplicate column name 'Net_Pay'
mysql>
mysql> UPDATE Emp
    -> SET Net_Pay = Gross_Pay - PF;
Query OK, 5 rows affected (0.04 sec)
Rows matched: 5  Changed: 5  Warnings: 0

mysql> SELECT * FROM Emp;
+--------+--------------+-------------+----------+---------+---------+---------
+-----------+----------+
| Emp_No | Emp_Name     | Designation | Basic    | DA      | HRA     | PF      |
Gross_Pay | Net_Pay   |
+--------+--------------+-------------+----------+---------+---------+---------
+-----------+----------+
|      1 | Alice Johnson | Manager     | 20000.00 | 4000.00 | 3000.00 | 2000.00 |
27000.00 | 25000.00 |
|      2 | Bob Smith     | Developer   | 15000.00 | 3000.00 | 2250.00 | 1500.00 |
20250.00 | 18750.00 |
|      3 | Charlie Brown | Analyst     | 18000.00 | 3600.00 | 2700.00 | 1800.00 |
24300.00 | 22500.00 |
|      4 | David White   | Tester      | 12000.00 | 2400.00 | 1800.00 | 1200.00 |
16200.00 | 15000.00 |
|      5 | Eva Green     | HR          | 17000.00 | 3400.00 | 2550.00 | 1700.00 |
22950.00 | 21250.00 |
+--------+--------------+-------------+----------+---------+---------+---------
+-----------+----------+
5 rows in set (0.00 sec)

mysql> SELECT * FROM Emp e1
    -> WHERE Basic = (SELECT MIN(Basic) FROM Emp e2 WHERE e1.Designation =
e2.Designation);
+--------+--------------+-------------+----------+---------+---------+---------
+-----------+----------+
```

```
| Emp_No | Emp_Name       | Designation | Basic    | DA      | HRA     | PF      | Gross_Pay | Net_Pay  |
+--------+---------------+-------------+----------+---------+---------+---------+-----------+----------+
|      1 | Alice Johnson | Manager     | 20000.00 | 4000.00 | 3000.00 | 2000.00 | 27000.00  | 25000.00 |
|      2 | Bob Smith     | Developer   | 15000.00 | 3000.00 | 2250.00 | 1500.00 | 20250.00  | 18750.00 |
|      3 | Charlie Brown | Analyst     | 18000.00 | 3600.00 | 2700.00 | 1800.00 | 24300.00  | 22500.00 |
|      4 | David White   | Tester      | 12000.00 | 2400.00 | 1800.00 | 1200.00 | 16200.00  | 15000.00 |
|      5 | Eva Green     | HR          | 17000.00 | 3400.00 | 2550.00 | 1700.00 | 22950.00  | 21250.00 |
+--------+---------------+-------------+----------+---------+---------+---------+-----------+----------+
5 rows in set (0.00 sec)

mysql> UPDATE Emp
    -> SET Net_Pay = Net_Pay + 1200
    -> WHERE Net_Pay < 10000;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 0  Changed: 0  Warnings: 0

mysql> SELECT * FROM Emp
    -> WHERE Gross_Pay BETWEEN 10000 AND 20000;
+--------+-------------+-------------+----------+---------+---------+---------+-----------+----------+
| Emp_No | Emp_Name    | Designation | Basic    | DA      | HRA     | PF      | Gross_Pay | Net_Pay  |
+--------+-------------+-------------+----------+---------+---------+---------+-----------+----------+
|      4 | David White | Tester      | 12000.00 | 2400.00 | 1800.00 | 1200.00 | 16200.00  | 15000.00 |
+--------+-------------+-------------+----------+---------+---------+---------+-----------+----------+
1 row in set (0.00 sec)

mysql> SELECT * FROM Emp
    -> WHERE Net_Pay = (SELECT MAX(Net_Pay) FROM Emp);
+--------+---------------+-------------+----------+---------+---------+---------+-----------+----------+
| Emp_No | Emp_Name      | Designation | Basic    | DA      | HRA     | PF      | Gross_Pay | Net_Pay  |
+--------+---------------+-------------+----------+---------+---------+---------+-----------+----------+
|      1 | Alice Johnson | Manager     | 20000.00 | 4000.00 | 3000.00 | 2000.00 | 27000.00  | 25000.00 |
+--------+---------------+-------------+----------+---------+---------+---------+-----------+----------+
1 row in set (0.00 sec)

mysql>
```