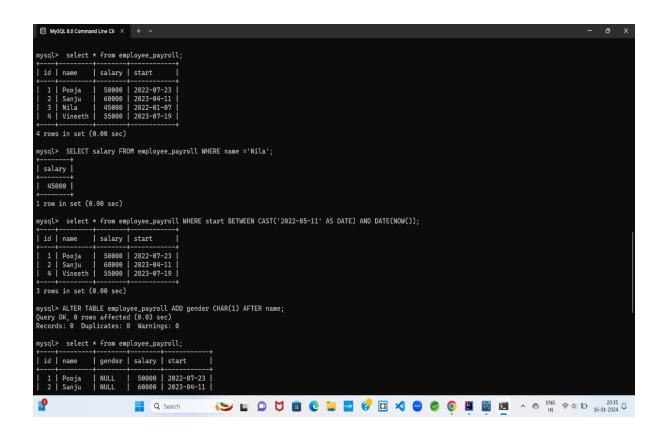# Employee Payroll Problems

```
mysql> create database payroll_service;
Query OK, 1 row affected (0.04 sec)

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| payroll_service    |
| performance_schema |
| sampledb           |
| studentdatabase    |
| sys                |
+--------------------+
7 rows in set (0.00 sec)

mysql> use  payroll_service;
Database changed
mysql> Create Table employee_payroll;
ERROR 4028 (HY000): A table must have at least one visible column.
mysql> Create Table employee_payroll(id INT unsigned NOT NULL AUTO_INCREMENT,name VARCHAR(150) NOT NULL,salary Double NOT NULL,start DATE NOT NUll,PRIMARY K
EY (id));
Query OK, 0 rows affected (0.07 sec)

mysql> select * from employee_payroll;
Empty set (0.00 sec)

mysql> insert into employee_payroll  (name,salary,start) values('Pooja',50000,'2022-07-23');
Query OK, 1 row affected (0.04 sec)

mysql>  insert into employee_payroll  (name,salary,start) values('Sanju',60000,'2023-04-11');
Query OK, 1 row affected (0.04 sec)

mysql>  insert into employee_payroll  (name,salary,start) values('Nila',45000,'2022-01-07');
Query OK, 1 row affected (0.04 sec)

mysql>  insert into employee_payroll  (name,salary,start) values('Vineeth',55000,'2023-07-19');
Query OK, 1 row affected (0.00 sec)
```

```
mysql>  select * from employee_payroll;
+----+---------+--------+------------+
| id | name    | salary | start      |
+----+---------+--------+------------+
|  1 | Pooja   |  50000 | 2022-07-23 |
|  2 | Sanju   |  60000 | 2023-04-11 |
|  3 | Nila    |  45000 | 2022-01-07 |
|  4 | Vineeth |  55000 | 2023-07-19 |
+----+---------+--------+------------+
4 rows in set (0.00 sec)

mysql>  SELECT salary FROM employee_payroll WHERE name ='Nila';
+--------+
| salary |
+--------+
|  45000 |
+--------+
1 row in set (0.00 sec)

mysql>  select * from employee_payroll WHERE start BETWEEN CAST('2022-05-11' AS DATE) AND DATE(NOW());
+----+---------+--------+------------+
| id | name    | salary | start      |
+----+---------+--------+------------+
|  1 | Pooja   |  50000 | 2022-07-23 |
|  2 | Sanju   |  60000 | 2023-04-11 |
|  4 | Vineeth |  55000 | 2023-07-19 |
+----+---------+--------+------------+
3 rows in set (0.00 sec)

mysql> ALTER TABLE employee_payroll ADD gender CHAR(1) AFTER name;
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql>  select * from employee_payroll;
+----+---------+--------+--------+------------+
| id | name    | gender | salary | start      |
+----+---------+--------+--------+------------+
|  1 | Pooja   | NULL   |  50000 | 2022-07-23 |
|  2 | Sanju   | NULL   |  60000 | 2023-04-11 |
```

```
mysql> ALTER TABLE employee_payroll ADD gender CHAR(1) AFTER name;
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql>  select * from employee_payroll;
+----+---------+--------+--------+------------+
| id | name    | gender | salary | start      |
+----+---------+--------+--------+------------+
|  1 | Pooja   | NULL   |  50000 | 2022-07-23 |
|  2 | Sanju   | NULL   |  60000 | 2023-04-11 |
|  3 | Nila    | NULL   |  45000 | 2022-01-07 |
|  4 | Vineeth | NULL   |  55000 | 2023-07-19 |
+----+---------+--------+--------+------------+
4 rows in set (0.00 sec)

mysql> UPDATE employee_payroll set gender ='F' where name='Pooja' or name='Sanju' or name='Nila';
Query OK, 3 rows affected (0.01 sec)
Rows matched: 3  Changed: 3  Warnings: 0

mysql> UPDATE employee_payroll set gender ='M' where name='Vineeth';
Query OK, 1 row affected (0.02 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql>  select * from employee_payroll;
+----+---------+--------+--------+------------+
| id | name    | gender | salary | start      |
+----+---------+--------+--------+------------+
|  1 | Pooja   | F      |  50000 | 2022-07-23 |
|  2 | Sanju   | F      |  60000 | 2023-04-11 |
|  3 | Nila    | F      |  45000 | 2022-01-07 |
|  4 | Vineeth | M      |  55000 | 2023-07-19 |
+----+---------+--------+--------+------------+
4 rows in set (0.00 sec)
```

```
mysql> SELECT SUM(salary) FROM employee_payroll WHERE gender = 'F' GROUP BY gender;
+-------------+
| SUM(salary) |
+-------------+
|      155000 |
+-------------+
1 row in set (0.00 sec)

mysql> SELECT gender,AVG(salary) FROM employee_payroll  GROUP BY gender;
+--------+--------------------+
| gender | AVG(salary)        |
+--------+--------------------+
| F      | 51666.666666666664 |
| M      |              55000 |
+--------+--------------------+
2 rows in set (0.00 sec)

mysql> SELECT gender,COUNT(salary) FROM employee_payroll  GROUP BY gender;
+--------+---------------+
| gender | COUNT(salary) |
+--------+---------------+
| F      |             3 |
| M      |             1 |
+--------+---------------+
2 rows in set (0.00 sec)

mysql> SELECT gender,MAX(salary) FROM employee_payroll  GROUP BY gender;
+--------+-------------+
| gender | MAX(salary) |
+--------+-------------+
| F      |       60000 |
| M      |       55000 |
+--------+-------------+
2 rows in set (0.01 sec)

mysql> SELECT gender,MIN(salary) FROM employee_payroll  GROUP BY gender;
+--------+-------------+
| gender | MIN(salary) |
+--------+-------------+
```

```
+-------------+
1 row in set (0.00 sec)

mysql> SELECT gender,AVG(salary) FROM employee_payroll  GROUP BY gender;
+--------+--------------------+
| gender | AVG(salary)        |
+--------+--------------------+
| F      | 51666.666666666664 |
| M      |              55000 |
+--------+--------------------+
2 rows in set (0.00 sec)

mysql> SELECT gender,COUNT(salary) FROM employee_payroll  GROUP BY gender;
+--------+---------------+
| gender | COUNT(salary) |
+--------+---------------+
| F      |             3 |
| M      |             1 |
+--------+---------------+
2 rows in set (0.00 sec)

mysql> SELECT gender,MAX(salary) FROM employee_payroll  GROUP BY gender;
+--------+-------------+
| gender | MAX(salary) |
+--------+-------------+
| F      |       60000 |
| M      |       55000 |
+--------+-------------+
2 rows in set (0.01 sec)

mysql> SELECT gender,MIN(salary) FROM employee_payroll  GROUP BY gender;
+--------+-------------+
| gender | MIN(salary) |
+--------+-------------+
| F      |       45000 |
| M      |       55000 |
+--------+-------------+
2 rows in set (0.00 sec)

mysql>
```

```
mysql> ALTER TABLE employee_payroll ADD phone VARCHAR(15),ADD address VARCHAR(255) DEFAULT 'Not Provided',ADD department VARCHAR(50) NOT NULL;
Query OK, 0 rows affected (0.06 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM employee_payroll;
+----+---------+--------+--------+------------+-------+--------------+------------+
| id | name    | gender | salary | start      | phone | address      | department |
+----+---------+--------+--------+------------+-------+--------------+------------+
|  1 | Pooja   | F      |  50000 | 2022-07-23 | NULL  | Not Provided |            |
|  2 | Sanju   | F      |  60000 | 2023-04-11 | NULL  | Not Provided |            |
|  3 | Nila    | F      |  45000 | 2022-01-07 | NULL  | Not Provided |            |
|  4 | Vineeth | M      |  55000 | 2023-07-19 | NULL  | Not Provided |            |
+----+---------+--------+--------+------------+-------+--------------+------------+
4 rows in set (0.00 sec)

mysql> ALTER TABLE employee_payroll ADD basic_pay FLOAT,ADD deductions FLOAT,ADD taxable_pay FLOAT,ADD income_tax FLOAT,ADD net_pay FLOAT;
Query OK, 0 rows affected (0.06 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM employee_payroll;
+----+---------+--------+--------+------------+-------+--------------+------------+-----------+------------+-------------+------------+---------+
| id | name    | gender | salary | start      | phone | address      | department | basic_pay | deductions | taxable_pay | income_tax | net_pay |
+----+---------+--------+--------+------------+-------+--------------+------------+-----------+------------+-------------+------------+---------+
|  1 | Pooja   | F      |  50000 | 2022-07-23 | NULL  | Not Provided |            |      NULL |       NULL |        NULL |       NULL |    NULL |
|  2 | Sanju   | F      |  60000 | 2023-04-11 | NULL  | Not Provided |            |      NULL |       NULL |        NULL |       NULL |    NULL |
|  3 | Nila    | F      |  45000 | 2022-01-07 | NULL  | Not Provided |            |      NULL |       NULL |        NULL |       NULL |    NULL |
|  4 | Vineeth | M      |  55000 | 2023-07-19 | NULL  | Not Provided |            |      NULL |       NULL |        NULL |       NULL |    NULL |
+----+---------+--------+--------+------------+-------+--------------+------------+-----------+------------+-------------+------------+---------+
4 rows in set (0.00 sec)

mysql> UPDATE employee_payroll set department='Sales and Marketing' where id=1;
Query OK, 1 row affected (0.05 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE employee_payroll set department='Sales' where id=2;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE employee_payroll set department='Marketing' where id=3;
```

```
mysql> SELECT * FROM employee_payroll;
+----+---------+--------+--------+------------+-------+--------------+------------+-----------+------------+-------------+------------+---------+
| id | name    | gender | salary | start      | phone | address      | department | basic_pay | deductions | taxable_pay | income_tax | net_pay |
+----+---------+--------+--------+------------+-------+--------------+------------+-----------+------------+-------------+------------+---------+
|  1 | Pooja   | F      |  50000 | 2022-07-23 | NULL  | Not Provided |            |      NULL |       NULL |        NULL |       NULL |    NULL |
|  2 | Sanju   | F      |  60000 | 2023-04-11 | NULL  | Not Provided |            |      NULL |       NULL |        NULL |       NULL |    NULL |
|  3 | Nila    | F      |  45000 | 2022-01-07 | NULL  | Not Provided |            |      NULL |       NULL |        NULL |       NULL |    NULL |
|  4 | Vineeth | M      |  55000 | 2023-07-19 | NULL  | Not Provided |            |      NULL |       NULL |        NULL |       NULL |    NULL |
+----+---------+--------+--------+------------+-------+--------------+------------+-----------+------------+-------------+------------+---------+
4 rows in set (0.00 sec)

mysql> UPDATE employee_payroll set department='Sales and Marketing' where id=1;
Query OK, 1 row affected (0.05 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE employee_payroll set department='Sales' where id=2;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE employee_payroll set department='Marketing' where id=3;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE employee_payroll set department='Marketing' where id=4;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT * FROM employee_payroll;
+----+---------+--------+--------+------------+-------+--------------+---------------------+-----------+------------+-------------+------------+---------+
| id | name    | gender | salary | start      | phone | address      | department          | basic_pay | deductions | taxable_pay | income_tax | net_pay |
+----+---------+--------+--------+------------+-------+--------------+---------------------+-----------+------------+-------------+------------+---------+
|  1 | Pooja   | F      |  50000 | 2022-07-23 | NULL  | Not Provided | Sales and Marketing |      NULL |       NULL |        NULL |       NULL |    NULL |
|  2 | Sanju   | F      |  60000 | 2023-04-11 | NULL  | Not Provided | Sales               |      NULL |       NULL |        NULL |       NULL |    NULL |
|  3 | Nila    | F      |  45000 | 2022-01-07 | NULL  | Not Provided | Marketing           |      NULL |       NULL |        NULL |       NULL |    NULL |
|  4 | Vineeth | M      |  55000 | 2023-07-19 | NULL  | Not Provided | Marketing           |      NULL |       NULL |        NULL |       NULL |    NULL |
+----+---------+--------+--------+------------+-------+--------------+---------------------+-----------+------------+-------------+------------+---------+
4 rows in set (0.00 sec)

mysql>
```