

21BCE7371

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DBMS ASSIGNMENT - 9

Assumed Databases:

Employee:

```
mysql> SELECT * FROM employee;
+----+-----+-----+-----+-----+
| id | fname | lname | department_id | salary |
+----+-----+-----+-----+-----+
| 1  | John  | Doe   | 1             | 30000  |
| 2  | Jane  | Doe   | 1             | 25000  |
| 3  | Bob   | Smith | 2             | 40000  |
| 4  | Alice | Johnson | 2           | 35000  |
| 5  | David | Lee   | 3             | 50000  |
| 6  | Sarah | Kim   | 3             | 45000  |
| 7  | Clare | Gilmore | 5           | 50000  |
+----+-----+-----+-----+-----+
7 rows in set (0.00 sec)
```

Department:

```
mysql> SELECT * FROM department
+----+-----+
| id | name |
+----+-----+
| 1  | Sales |
| 2  | Marketing |
| 3  | Engineering |
| 4  | PR |
| 5  | Administrator |
+----+-----+
5 rows in set (0.00 sec)
```

A1:

Source Code:

```
SELECT COUNT(DISTINCT department_id) AS num_departments
FROM employee;
-- Q1
```

Output:

```
mysql> SELECT COUNT(DISTINCT
-> FROM employee;
+-----+
| num_departments |
+-----+
|                4 |
+-----+
1 row in set (0.00 sec)
```

A2:

Source Code:

```
SELECT department_id, MIN(salary) AS min_salary, MAX(salary) AS max_salary
FROM employee
GROUP BY department_id;
-- Q2
```

Output:

```
mysql> SELECT department_id, MIN(salary) AS min_salary, MAX(salary) AS max_salary
-> FROM employee
-> GROUP BY department_id;
+-----+-----+-----+
| department_id | min_salary | max_salary |
+-----+-----+-----+
| 1 | 25000 | 30000 |
| 2 | 35000 | 40000 |
| 3 | 45000 | 50000 |
| 5 | 50000 | 50000 |
+-----+-----+-----+
4 rows in set (0.00 sec)
```

A3:

Source Code:

```
SELECT d.name AS department_name, AVG(e.salary) AS avg_salary
FROM employee e
JOIN department d ON e.department_id = d.id
GROUP BY e.department_id, d.name;
-- Q3
```

Output:

```
mysql> SELECT d.name AS department_name
-> FROM employee e
-> JOIN department d ON e.department_id = d.id
-> GROUP BY e.department_id, d.name;

+-----+-----+
| department_name | avg_salary |
+-----+-----+
| Sales           | 27500.0000 |
| Marketing       | 37500.0000 |
| Engineering     | 47500.0000 |
| Administrator   | 50000.0000 |
+-----+-----+
4 rows in set (0.00 sec)
```

A4:

Source Code:

```
CREATE VIEW employee_fname_salary AS
SELECT fname, salary
FROM employee;
-- Q4
```

Output:

```
mysql> SELECT * FROM employee;

+-----+-----+
| fname | salary |
+-----+-----+
| John  | 30000  |
| Jane  | 25000  |
| Bob   | 40000  |
| Alice | 35000  |
| David | 50000  |
| Sarah | 45000  |
| Clare | 50000  |
+-----+-----+
7 rows in set (0.00 sec)
```

A5:

Source Code:

```
CREATE TABLE high_salary_employee AS
SELECT *
FROM employee
WHERE salary > 25000;
-- Q5
```

Output:

```
mysql> SELECT * FROM high_salary_employee;
+----+-----+-----+-----+-----+
| id | fname | lname  | department_id | salary |
+----+-----+-----+-----+-----+
| 1  | John  | Doe    | 1             | 30000  |
| 3  | Bob   | Smith  | 2             | 40000  |
| 4  | Alice | Johnson | 2             | 35000  |
| 5  | David | Lee    | 3             | 50000  |
| 6  | Sarah | Kim    | 3             | 45000  |
| 7  | Clare | Gilmore | 5             | 50000  |
+----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

A6:

Source Code:

```
CREATE VIEW department_5_employee AS
SELECT *
FROM employee
WHERE department_id = 5;
-- Q6
```

Output:

```
mysql> SELECT * FROM department_5_employee;
+----+-----+-----+-----+-----+
| id | fname | lname  | department_id | salary |
+----+-----+-----+-----+-----+
| 7  | Clare | Gilmore | 5             | 50000  |
+----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```