VARUN SINGH
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2CSE 9

PROGRAM 7

1. **Compute the number of days remaining in the current year.**

```
MariaDB [VARUN_SINGH_2CSE9]> SELECT DATEDIFF(
    ->     MAKEDATE(YEAR(CURDATE()) + 1, 1),
    ->     CURDATE()
    -> ) AS days_remaining;
+----------------+
| days_remaining |
+----------------+
|            309 |
+----------------+
1 row in set (0.009 sec)
```

2. **Find the highest salary, lowest salary, and the difference between them.**

```
MariaDB [VARUN_SINGH_2CSE9]> SELECT
    ->     MAX(sal) AS highest_salary,
    ->     MIN(sal) AS lowest_salary,
    ->     MAX(sal) - MIN(sal) AS difference
    -> FROM employee;
+----------------+---------------+------------+
| highest_salary | lowest_salary | difference |
+----------------+---------------+------------+
|           5500 |           880 |       4620 |
+----------------+---------------+------------+
1 row in set (0.088 sec)
```

3. **Display employees whose commission is greater than 25% of their salary**

```
MariaDB [VARUN_SINGH_2CSE9]> SELECT ename, sal, comm FROM employee
    -> WHERE comm > sal * 0.25;
+--------+------+------+
| ename  | sal  | comm |
+--------+------+------+
| MARTIN | 1250 | 1400 |
+--------+------+------+
1 row in set (0.005 sec)
```

4. **Display employee salaries in dollar ($) format.**

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```
MariaDB [VARUN_SINGH_2CSE9]> SELECT ename, CONCAT('$', sal) AS salary FROM employee;
+--------+--------+
| ename  | salary |
+--------+--------+
| SMITH  | $880   |
| ALLEN  | $1600  |
| WARD   | $1250  |
| JONES  | $3273  |
| MARTIN | $1250  |
| BLAKE  | $3135  |
| CLARK  | $2695  |
| SCOTT  | $3300  |
| KING   | $5500  |
| TURNER | $1650  |
| ADAMS  | $1210  |
| JAMES  | $1045  |
| FORD   | $3300  |
| MILLER | $1430  |
+--------+--------+
14 rows in set (0.005 sec)
```

5. **Create a matrix (pivot-style) report showing total salary per job based on department.**

```
MariaDB [VARUN_SINGH_2CSE9]> SELECT
    ->     job,
    ->     SUM(CASE WHEN deptno = 10 THEN sal ELSE 0 END) AS dept10,
    ->     SUM(CASE WHEN deptno = 20 THEN sal ELSE 0 END) AS dept20,
    ->     SUM(CASE WHEN deptno = 30 THEN sal ELSE 0 END) AS dept30,
    ->     SUM(CASE WHEN deptno = 40 THEN sal ELSE 0 END) AS dept40,
    ->     SUM(sal) AS total_salary
    -> FROM employee
    -> GROUP BY job;
+-----------+--------+--------+--------+--------+--------------+
| job       | dept10 | dept20 | dept30 | dept40 | total_salary |
+-----------+--------+--------+--------+--------+--------------+
| ANALYST   |      0 |   3300 |      0 |   3300 |         6600 |
| CLERK     |   1430 |   2090 |   1045 |      0 |         4565 |
| MANAGER   |      0 |   5968 |   3135 |      0 |         9103 |
| PRESIDENT |      0 |   5500 |      0 |      0 |         5500 |
| SALESMAN  |      0 |      0 |   5750 |      0 |         5750 |
+-----------+--------+--------+--------+--------+--------------+
5 rows in set (0.029 sec)
```

6. **Display the total number of employees and the number of employees hired each year.**

```
MariaDB [VARUN_SINGH_2CSE9]> SELECT
    ->     COUNT(*) AS total_employees,
    ->     SUM(CASE WHEN YEAR(hiredate)=1980 THEN 1 ELSE 0 END) AS y1980,
    ->     SUM(CASE WHEN YEAR(hiredate)=1981 THEN 1 ELSE 0 END) AS y1981,
    ->     SUM(CASE WHEN YEAR(hiredate)=1982 THEN 1 ELSE 0 END) AS y1982,
    ->     SUM(CASE WHEN YEAR(hiredate)=1983 THEN 1 ELSE 0 END) AS y1983
    -> FROM employee;
+-----------------+-------+-------+-------+-------+
| total_employees | y1980 | y1981 | y1982 | y1983 |
+-----------------+-------+-------+-------+-------+
|              14 |     1 |    10 |     2 |     1 |
+-----------------+-------+-------+-------+-------+
1 row in set (0.001 sec)
```

7. **Find the last Sunday of any given month (example: February 2026).**

```
MariaDB [VARUN_SINGH_2CSE9]> SELECT DATE_SUB(
    ->     LAST_DAY('2026-02-01'),
    ->     INTERVAL (DAYOFWEEK(LAST_DAY('2026-02-01')) - 1) DAY
    -> ) AS last_sunday;
+-------------+
| last_sunday |
+-------------+
| 2026-02-22  |
+-------------+
1 row in set (0.005 sec)
```

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8. **Display department numbers along with the total number of employees in each department.**

```
MariaDB [VARUN_SINGH_2CSE9]> SELECT deptno, COUNT(*) AS total_employees
    -> FROM employee
    -> GROUP BY deptno;
+--------+-----------------+
| deptno | total_employees |
+--------+-----------------+
|     10 |               1 |
|     20 |               6 |
|     30 |               6 |
|     40 |               1 |
+--------+-----------------+
4 rows in set (0.006 sec)
```

9. **Display jobs along with the total number of employees in each job.**

```
MariaDB [VARUN_SINGH_2CSE9]> SELECT job, COUNT(*) AS total_employees
    -> FROM employee
    -> GROUP BY job;
+-----------+-----------------+
| job       | total_employees |
+-----------+-----------------+
| ANALYST   |               2 |
| CLERK     |               4 |
| MANAGER   |               3 |
| PRESIDENT |               1 |
| SALESMAN  |               4 |
+-----------+-----------------+
5 rows in set (0.001 sec)
```

10. **Display department numbers along with the total salary for each department.**

```
MariaDB [VARUN_SINGH_2CSE9]> SELECT deptno, SUM(sal) AS total_salary FROM employee
    -> GROUP BY deptno;
+--------+--------------+
| deptno | total_salary |
+--------+--------------+
|     10 |         1430 |
|     20 |        16858 |
|     30 |         9930 |
|     40 |         3300 |
+--------+--------------+
4 rows in set (0.025 sec)
```