Database Testing

Employee:

```
mysql> Select * From Employee;
+-------+-------+-----------+---------------------+---------+
| EmpId | Name  | ManagerId | DOJ                 | City    |
+-------+-------+-----------+---------------------+---------+
|   121 | John  |       321 | 2016-01-31 00:00:00 | hyd     |
|   321 | David |       986 | 2018-01-30 00:00:00 | Chennai |
|   421 | Scott |       876 | 2020-11-27 00:00:00 | Mumbai  |
+-------+-------+-----------+---------------------+---------+
```

Salary:

```
mysql> Select * From Salary;
+-------+---------+--------+----------+
| EmpId | Project | Salary | Variable |
+-------+---------+--------+----------+
|   121 | P1      |  20000 |        0 |
|   321 | P2      |  35000 |     1000 |
|   421 | P1      |  50000 |     3000 |
+-------+---------+--------+----------+
```

Ques.1. Write an SQL query to fetch the EmpID and Name of all the employees working under Manager with id - “986”

Select EmpId, Name From Employee Where ManagerId=986;

```
+-------+-------+
| EmpId | Name  |
+-------+-------+
|   321 | David |
+-------+-------+
1 row in set (0.00 sec)
```

Ques.2. Write an SQL query to fetch the different projects available from the Salary table.

Select Distinct(Project) From Salary;

```
+---------+
| Project |
+---------+
| P1      |
| P2      |
+---------+
2 rows in set (0.00 sec)
```

Qres.3. Write an SQL query to fetch the count of employees.working in Project ‘P1”.

SELECT COUNT(*) FROM Salary WHERE Project = 'P1';

```
+----------+
| COUNT(*) |
+----------+
|        2 |
+----------+
1 row in set (0.00 sec)

mysql>
```

Qres.4. Write an SQL query to find the maximum, minimum, and average salary of the employees.

Select Max(salary), Min(salary), Avg(salary) From Salary;

```
+-------------+-------------+-------------+
| Max(salary) | Min(salary) | Avg(salary) |
+-------------+-------------+-------------+
|       50000 |       20000 |  35000.0000 |
+-------------+-------------+-------------+
1 row in set (0.01 sec)
```

Qres.5. Write an SQL query to find the employees id whose salary lies in the range of 30000 and 40000.

Select EmpId From Salary Where Salary Between 30000 And 40000;

```
+-------+
| EmpId |
+-------+
|   321 |
+-------+
1 row in set (0.00 sec)
```

Qres.6. Write an SQL query to fetch those employees who live in Chennai and work under the manager with ManagerId - 986.

Select * From Employee Where City ='Chennai' And ManagerId= 986;

```
+-------+-------+-----------+---------------------+---------+
| EmpId | Name  | ManagerId | DOJ                 | City    |
+-------+-------+-----------+---------------------+---------+
|   321 | David |       986 | 2018-01-30 00:00:00 | Chennai |
+-------+-------+-----------+---------------------+---------+
1 row in set (0.00 sec)
```

Qres.7. Write an SQL query to fetch all the employees who either live in Chennai or work under a manager with ManagerId - 321.

Select * From Employee Where City ='Chennai' Or ManagerId= 321;

```
+-------+-------+-----------+---------------------+---------+
| EmpId | Name  | ManagerId | DOJ                 | City    |
+-------+-------+-----------+---------------------+---------+
|   121 | John  |       321 | 2016-01-31 00:00:00 | hyd     |
|   321 | David |       986 | 2018-01-30 00:00:00 | Chennai |
+-------+-------+-----------+---------------------+---------+
2 rows in set (0.00 sec)
```

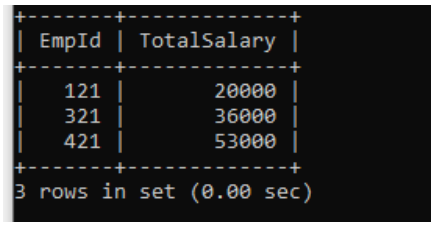
Qres.8. Write an SQL query to fetch all those employees who work on Project other than P1.

Select EmpId From Salary Where Project<>'P1';

```
+-------+
| EmpId |
+-------+
|   321 |
+-------+
1 row in set (0.01 sec)
```

Qres.9. Write an SQL query to display the total salary of each employee adding the Salary with Variable value.

SELECT EmpId, Salary + Variable as TotalSalary FROM Salary;

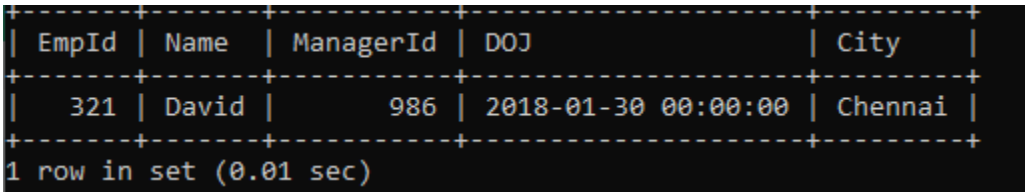


EmpId	TotalSalary
121	20000
321	36000
421	53000

3 rows in set (0.00 sec)

Qres.10. Write an SQL query to fetch those employees whose name begins with any two characters, followed by a text ‘’vi” and ending with any sequence of characters.

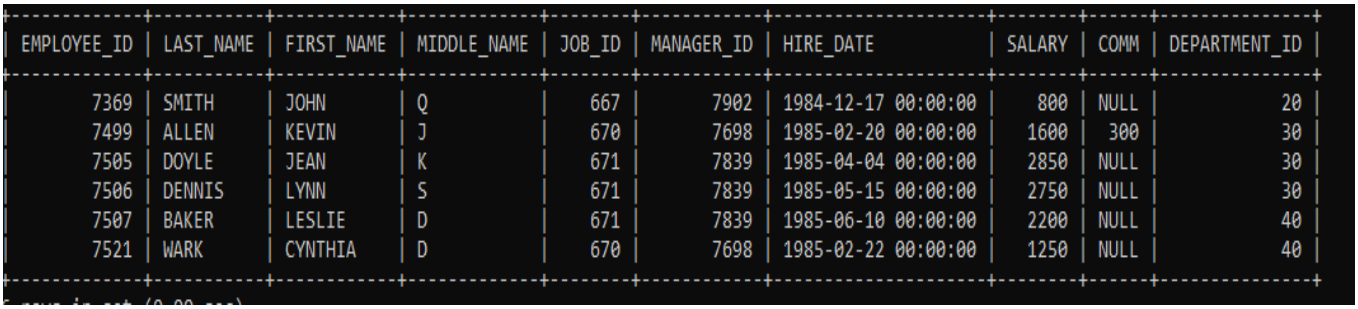
Select * From Employee Where Name Like '__vi%';



EmpId	Name	ManagerId	DOJ	City
321	David	986	2018-01-30 00:00:00	Chennai

1 row in set (0.01 sec)

EMP



EMPLOYEE_ID	LAST_NAME	FIRST_NAME	MIDDLE_NAME	JOB_ID	MANAGER_ID	HIRE_DATE	SALARY	COMM	DEPARTMENT_ID
7369	SMITH	JOHN	Q	667	7902	1984-12-17 00:00:00	800	NULL	20
7499	ALLEN	KEVIN	J	670	7698	1985-02-20 00:00:00	1600	300	30
7505	DOYLE	JEAN	K	671	7839	1985-04-04 00:00:00	2850	NULL	30
7506	DENNIS	LYNN	S	671	7839	1985-05-15 00:00:00	2750	NULL	30
7507	BAKER	LESLIE	D	671	7839	1985-06-10 00:00:00	2200	NULL	40
7521	WARK	CYNTHIA	D	670	7698	1985-02-22 00:00:00	1250	NULL	40

DEPARTMENT

DEPARTMENT_ID	NAME	LOCATION_ID
10	ACCOUNTING	122
20	RESEARCH	124
30	SALES	123
40	OPERATIONS	167

LOCATION

LOCATION_ID	REGIONAL_GROUP
122	NEW YORK
123	DALLAS
124	CHICAGO
167	BOSTON

JOB

JOB_ID	FUNCTION
667	CLERK
668	STAFF
669	ANALYST
670	SALESPERSION
671	MANAGER
672	PRESIDENT

Ques.11. List out the employees who are not receiving the commission.

Select * From EMP Where COMM is NULL;

EMPLOYEE_ID	LAST_NAME	FIRST_NAME	MIDDLE_NAME	JOB_ID	MANAGER_ID	HIRE_DATE	SALARY	COMM	DEPARTMENT_ID
7369	SMITH	JOHN	Q	667	7902	1984-12-17 00:00:00	800	NULL	20
7505	DOYLE	JEAN	K	671	7839	1985-04-04 00:00:00	2850	NULL	30
7506	DENNIS	LYNN	S	671	7839	1985-05-15 00:00:00	2750	NULL	30
7507	BAKER	LESLIE	D	671	7839	1985-06-10 00:00:00	2200	NULL	40
7521	WARK	CYNTHIA	D	670	7698	1985-02-22 00:00:00	1250	NULL	40

5 rows in set (0.00 sec)

Ques: 12. List out the employees who are working in department 10 and draw the salaries of more than 3500

Select * From EMP Where DEPARTMENT_ID =10 And SALARY>3500;

```
Empty set (0.01 sec)
```

Ques: 13. List out the employee id, name in descending order based on the salary column

Select EMPLOYEE_ID, LAST_NAME, FIRST_NAME, SALARY From EMP Order By SALARY DESC;

```
+-------------+-----------+------------+--------+
| EMPLOYEE_ID | LAST_NAME | FIRST_NAME | SALARY |
+-------------+-----------+------------+--------+
|        7505 | DOYLE     | JEAN       |   2850 |
|        7506 | DENNIS    | LYNN       |   2750 |
|        7507 | BAKER     | LESLIE     |   2200 |
|        7499 | ALLEN     | KEVIN      |   1600 |
|        7521 | WARK      | CYNTHIA    |   1250 |
|        7369 | SMITH     | JOHN       |    800 |
+-------------+-----------+------------+--------+
6 rows in set (0.00 sec)
```

Ques: 14. How many employees, who are working in different departments, are wise in the organization.

Select DEPARTMENT_ID, Count(*) From EMP Group By DEPARTMENT_ID;

```
| DEPARTMENT_ID | Count(*) |
+---------------+----------+
|            20 |        1 |
|            30 |        3 |
|            40 |        2 |
+---------------+----------+
3 rows in set (0.00 sec)
```

Ques: 15. List out the department id having at least 3 employees.

Select DEPARTMENT_ID, Count(*) From EMP Group By DEPARTMENT_ID Having Count(*)>=3;

```
| DEPARTMENT_ID | Count(*) |
+---------------+----------+
|            30 |        3 |
+---------------+----------+
1 row in set (0.00 sec)
```

Ques: 16. Display the employees who got the maximum salary.

Select * From EMP Where SALARY=(Select Max(SALARY) From EMP);

EMPLOYEE_ID	LAST_NAME	FIRST_NAME	MIDDLE_NAME	JOB_ID	MANAGER_ID	HIRE_DATE	SALARY	COMM	DEPARTMENT_ID
7505	DOYLE	JEAN	K	671	7839	1985-04-04 00:00:00	2850	NULL	30

1 row in set (0.02 sec)

Ques: 17. Display the employees who are working in the Sales department.

Select * From EMP Where DEPARTMENT_ID IN (Select DEPARTMENT_ID From DEPARTMENT Where DEPARTMENT.NAME = 'Sales');

EMPLOYEE_ID	LAST_NAME	FIRST_NAME	MIDDLE_NAME	JOB_ID	MANAGER_ID	HIRE_DATE	SALARY	COMM	DEPARTMENT_ID
7499	ALLEN	KEVIN	J	670	7698	1985-02-20 00:00:00	1600	300	30
7505	DOYLE	JEAN	K	671	7839	1985-04-04 00:00:00	2850	NULL	30
7506	DENNIS	LYNN	S	671	7839	1985-05-15 00:00:00	2750	NULL	30

3 rows in set (0.01 sec)

Ques: 18. Display the employees who are working in “New York”

SELECT EMP.EMPLOYEE_ID, EMP.LAST_NAME, EMP.FIRST_NAME, EMP.MIDDLE_NAME
FROM EMP JOIN DEPARTMENT ON EMP.DEPARTMENT_ID = DEPARTMENT.DEPARTMENT_ID
JOIN LOCATION ON DEPARTMENT.LOCATION_ID = LOCATION.LOCATION_ID WHERE
LOCATION.REGIONAL_GROUP = 'NEW YORK';

Empty set (0.00 sec)

Ques: 19. Update the employees' salaries, who are working as Manager on the basis of 10%

Update EMP Set SALARY = SALARY*1.10 Where JOB_ID=(Select JOB_ID From JOB Where `FUNCTION` = 'MANAGER');

EMPLOYEE_ID	LAST_NAME	FIRST_NAME	MIDDLE_NAME	JOB_ID	MANAGER_ID	HIRE_DATE	SALARY	COMM	DEPARTMENT_ID
7369	SMITH	JOHN	Q	667	7902	1984-12-17 00:00:00	800	NULL	20
7499	ALLEN	KEVIN	J	670	7698	1985-02-20 00:00:00	1600	300	30
7505	DOYLE	JEAN	K	671	7839	1985-04-04 00:00:00	3135	NULL	30
7506	DENNIS	LYNN	S	671	7839	1985-05-15 00:00:00	3025	NULL	30
7507	BAKER	LESLIE	D	671	7839	1985-06-10 00:00:00	2420	NULL	40
7521	WARK	CYNTHIA	D	670	7698	1985-02-22 00:00:00	1250	NULL	40

6 rows in set (0.00 sec)

Ques: 20. Delete the employees who are working as SALESPERSION.

Delete From EMP Where JOB_ID=(Select JOB_ID From JOB Where `FUNCTION` = 'SALESPERSION');

EMPLOYEE_ID	LAST_NAME	FIRST_NAME	MIDDLE_NAME	JOB_ID	MANAGER_ID	HIRE_DATE	SALARY	COMM	DEPARTMENT_ID
7369	SMITH	JOHN	Q	667	7902	1984-12-17 00:00:00	800	NULL	20
7505	DOYLE	JEAN	K	671	7839	1985-04-04 00:00:00	3135	NULL	30
7506	DENNIS	LYNN	S	671	7839	1985-05-15 00:00:00	3025	NULL	30
7507	BAKER	LESLIE	D	671	7839	1985-06-10 00:00:00	2420	NULL	40

4 rows in set (0.00 sec)

Ques.21. Display the highest salary from employee table.

Select Max(Salary) From EMP;

Select SALARY From EMP Order By SALARY DESC Limit 1;

Max(Salary)
3135

1 row in set (0.04 sec)

Ques.22. Display the 2nd highest salary from employee table.

Select Max(SALARY) From EMP Where SALARY < (Select Max(SALARY) From EMP);

Select SALARY From(Select SALARY From EMP Order By SALARY DESC Limit 2) evn Order BY SALARY Limit 1;

```
+-------------+
| Max(SALARY) |
+-------------+
|        3025 |
+-------------+
1 row in set (0.00 sec)
```

Ques.23. Display the Nth highest salary from employee table.

Select Max(SALARY) From EMP Where SALARY < (Select Max(SALARY) From EMP Where SALARY < (Select Max(SALARY) From EMP));

SELECT SALARY FROM(SELECT SALARY FROM EMP ORDER BY SALARY DESC LIMIT 3) env ORDER BY SALARY LIMIT 1;

```
+--------+
| SALARY |
+--------+
|   2420 |
+--------+
1 row in set (0.00 sec)
```