MySQL Subquery - Exercises, Practice, Solution

1.] Write a MySQL query to find the name (first_name, last_name) and the salary of the employees who have a higher salary than the employee whose last_name='Bull'.

⇒ Output:

```
SELECT FIRST_NAME,LAST_NAME,SALARY FROM employees WHERE SALARY > (SELECT SALARY
FROM employees WHERE LAST_NAME = 'Bull');
```

FIRST_NAME	LAST_NAME	SALARY
Steven	King	24000.00
Neena	Kochhar	17000.00
Lex	De Haan	17000.00
Alexander	Hunold	9000.00
Bruce	Ernst	6000.00

2.] Write a MySQL query to find the name (first_name, last_name) of all employees who works in the IT department.

⇒ Output:

```
SELECT FIRST_NAME, LAST_NAME FROM employees WHERE department_id IN (SELECT
department_id FROM departments WHERE department_name='IT');
```

FIRST_NAME	LAST_NAME
Alexander	Hunold
Bruce	Ernst
David	Austin
Valli	Pataballa
Diana	Lorentz

3.] Write a MySQL query to find the name (first_name, last_name) of the employees who have a manager and worked in a USA based department.

⇒ Output:

```
SELECT first_name, last_name FROM employees WHERE manager_id
IN (SELECT employee_id FROM employees  WHERE department_id
IN (SELECT department_id FROM departments WHERE location_id
IN (SELECT location_id FROM locations WHERE country_id='US')));
```

first_name	last_name
Alexander	Khoo
Shelli	Baida
Sigal	Tobias
Guy	Himuro
Karen	Colmenares

4.] Write a MySQL query to find the name (first_name, last_name) of the employees who are managers.

⇒ Output:

```
SELECT FIRST_NAME,LAST_NAME FROM employees WHERE (employee_ID
IN(SELECT MANAGER_ID FROM employees));
```

	FIRST_NAME	LAST_NAME
▶	Steven	King
	Neena	Kochhar
	Lex	De Haan
	Alexander	Hunold
	Nancy	Greenberg

5.] Write a MySQL query to find the name (first_name, last_name), and salary of the employees whose salary is greater than the average salary.

⇒ Output:

```
SELECT FIRST_NAME,LAST_NAME,SALARY FROM employees
WHERE SALARY >(SELECT AVG(SALARY) FROM employees);
```

	FIRST_NAME	LAST_NAME	SALARY
▶	Steven	King	24000.00
	Neena	Kochhar	17000.00
	Lex	De Haan	17000.00
	Alexander	Hunold	9000.00
	Nancy	Greenberg	12000.00

6.] Write a MySQL query to find the name (first_name, last_name), and salary of the employees whose salary is equal to the minimum salary for their job grade.

⇒ Output:

```
SELECT FIRST_NAME,LAST_NAME,SALARY FROM employees WHERE employees.SALARY =
(SELECT MIN_SALARY FROM JOBS WHERE employees.JOB_ID = JOBS.JOB_ID);
```

	FIRST_NAME	LAST_NAME	SALARY
▶	Karen	Colmenares	2500.00
	Martha	Sullivan	2500.00
	Randall	Perkins	2500.00

7.] Write a MySQL query to find the name (first_name, last_name), and salary of the employees who earns more than the average salary and works in any of the IT departments.

⇒ Output:

```
SELECT FIRST_NAME,LAST_NAME,SALARY FROM employees WHERE DEPARTMENT_ID
IN(SELECT DEPARTMENT_ID FROM DEPARTMENTS WHERE DEPARTMENT_NAME LIKE 'IT')
AND SALARY > (SELECT AVG(SALARY) FROM employees);
```

	FIRST_NAME	LAST_NAME	SALARY
▶	Alexander	Hunold	9000.00

8.] Write a MySQL query to find the name (first_name, last_name), and salary of the employees who earns more than the earning of Mr. Bell.

⇒ Output:

```
SELECT FIRST_NAME,LAST_NAME, SALARY FROM employees WHERE SALARY >
(SELECT SALARY FROM employees WHERE LAST_NAME = 'BELL') ORDER BY FIRST_NAME ;
```

FIRST_NAME	LAST_NAME	SALARY
Adam	Fripp	8200.00
Alberto	Errazuriz	12000.00
Alexander	Hunold	9000.00
Alexis	Bull	4100.00
Allan	McEwen	9000.00

9.] Write a MySQL query to find the name (first_name, last_name), and salary of the employees who earn the same salary as the minimum salary for all departments.

⇒ Output:

SELECT * FROM employees WHERE SALARY = (SELECT MIN(SALARY) FROM employees);

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
132	TJ	Olson	TJOLSON	650.124.8234	1987-07-19	ST_CLERK	2100.00	0.00	121	50
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

10.] Write a MySQL query to find the name (first_name, last_name), and salary of the employees whose salary is greater than the average salary of each department.

⇒ Output:

11.] Write a MySQL query to find the name (first_name, last_name) and salary of the employees who earn a salary that is higher than the salary of all the Shipping Clerk (JOB_ID = 'SH_CLERK'). Sort the results of the salary of the lowest to highest.

⇒ Output:

SELECT FIRST_NAME,LAST_NAME,JOB_ID,SALARY FROM employees WHERE SALARY > ALL(SELECT SALARY FROM employees WHERE JOB_ID ='SH_CLERK') ORDER BY SALARY;

FIRST_NAME	LAST_NAME	JOB_ID	SALARY
Jennifer	Whalen	AD_ASST	4400.00
David	Austin	IT_PROG	4800.00
Valli	Pataballa	IT_PROG	4800.00
Kevin	Mourgos	ST_MAN	5800.00
Bruce	Ernst	IT_PROG	6000.00

12.] Write a MySQL query to find the name (first_name, last_name) of the employees who are not supervisors.

⇒ Output:

SELECT B.FIRST_NAME,B.LAST_NAME FROM employees B WHERE NOT EXISTS (SELECT 'X' FROM employees a WHERE a.manager_id = b.employee_id);

FIRST_NAME	LAST_NAME
Bruce	Ernst
David	Austin
Valli	Pataballa
Diana	Lorentz
Daniel	Faviet

13.] Write a MySQL query to display the employee ID, first name, last name, and department names of all employees.

⇒ Output:

SELECT EMPLOYEE_ID, FIRST_NAME, LAST_NAME,
(SELECT DEPARTMENT_NAME FROM DEPARTMENTS D

WHERE E.DEPARTMENT_ID = D.DEPARTMENT_ID) DEPARTMENT
FROM employees E ORDER BY DEPARTMENT;

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	DEPARTMENT
178	Kimberely	Grant	NULL
205	Shelley	Higgins	Accounting
206	William	Gietz	Accounting
200	Jennifer	Whalen	Administration
100	Steven	King	Executive

14.] Write a MySQL query to display the employee ID, first name, last name, salary of all employees whose salary is above average for their departments.

⇒ Output:

SELECT EMPLOYEE_ID,FIRST_NAME FROM employees AS A WHERE SALARY >
(SELECT AVG(SALARY) FROM employees WHERE DEPARTMENT_ID = A.DEPARTMENT_ID);

EMPLOYEE_ID	FIRST_NAME
100	Steven
103	Alexander
104	Bruce
108	Nancy
109	Daniel

15.] Write a MySQL query to fetch even numbered records from employees table.

⇒ Output:

SET @i = 0;
SELECT i, employee_id
FROM (SELECT @i := @i + 1 AS i, employee_id FROM employees) a WHERE MOD(a.i, 2) = 0;

i	employee_id
2	101
4	103
6	105
8	107
10	109

16.] Write a MySQL query to find the 5th maximum salary in the employees table.

⇒ Output:

SELECT DISTINCT salary FROM employees e1
WHERE 5 = (SELECT COUNT(DISTINCT salary) FROM employees e2
WHERE e2.salary >= e1.salary);

salary
13000.00

17.] Write a MySQL query to find the 4th minimum salary in the employees table.

⇒ Output:

SELECT DISTINCT salary FROM employees e1 WHERE 4 =
(SELECT COUNT(DISTINCT salary) FROM employees e2
WHERE e2.salary <= e1.salary);

	salary
▶	2500.00

18.] Write a MySQL query to select last 10 records from a table.

⇒ Output:

SELECT * FROM (SELECT * FROM employees ORDER BY employee_id DESC LIMIT 10) sub ORDER BY employee_id ASC;

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
▶	197	Kevin	Feeney	KFEENEY	650.507.9822	1987-09-22	SH_CLERK	3000.00	0.00	124	50
	198	Donald	OConnell	DOCONNEL	650.507.9833	1987-09-23	SH_CLERK	2600.00	0.00	124	50
	199	Douglas	Grant	DGRANT	650.507.9844	1987-09-24	SH_CLERK	2600.00	0.00	124	50
	200	Jennifer	Whalen	JWHALEN	515.123.4444	1987-09-25	AD_ASST	4400.00	0.00	101	10
	201	Michael	Hartstein	MHARTSTE	515.123.5555	1987-09-26	MK_MAN	13000.00	0.00	100	20

19.] Write a MySQL query to list the department ID and name of all the departments where no employee is working.

⇒ Output:

SELECT * FROM departments WHERE department_id NOT IN (select department_id FROM employees);

	DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
▶	120	Treasury	0	1700
	130	Corporate Tax	0	1700
	140	Control And Credit	0	1700
	150	Shareholder Services	0	1700
	160	Benefits	0	1700

20.] Write a MySQL query to get 3 maximum salaries.

⇒ Output:

SELECT DISTINCT salary FROM employees a WHERE 3 >=
(SELECT COUNT(DISTINCT salary) FROM employees b WHERE b.salary >= a.salary)
ORDER BY a.salary DESC;

	salary
▶	24000.00
	17000.00
	14000.00

21.] Write a MySQL query to get 3 minimum salaries.

⇒ Output:

SELECT DISTINCT salary FROM employees a WHERE 3 >=
(SELECT COUNT(DISTINCT salary) FROM employees b WHERE b.salary <= a.salary)

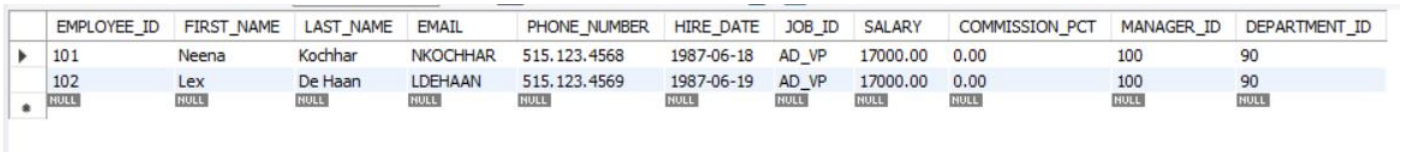
	salary
▶	2400.00
	2200.00
	2100.00

22.] Write a MySQL query to get nth max salaries of employees.

⇒ Output:

SELECT * FROM employees emp1 WHERE (1) =
(SELECT COUNT(DISTINCT(emp2.salary))FROM employees emp2

WHERE emp2.salary > emp1.salary);



EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
101	Neena	Kochhar	NKOCHHAR	515.123.4568	1987-06-18	AD_VP	17000.00	0.00	100	90
102	Lex	De Haan	LDEHAAN	515.123.4569	1987-06-19	AD_VP	17000.00	0.00	100	90
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL