INTRODUCTION

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Data Set Link - https://www.kaggle.com/datasets/sirajahmad/hr-schema-mysql

The HR database is a sample database that was originally created by Microsoft and used as the basis for their tutorials in a variety of database products for decades.

The HR sample database has seven tables:

1. The `employees` table stores the data of employees.
2. The `jobs` table stores the job data including job title and salary range.
3. The `departments` table stores department data.
4. The `job_history` table stores the job history of employees.
5. The `locations` table stores the location of the departments of the company.
6. The `countries` table stores the data of countries where the company is doing business.

The `regions` table stores the data of regions such as Asia, Europe, America, and the Middle East and Africa. The countries are grouped into regions.

Tasks

1. Write a query to find the addresses (location_id, street_address, city, state_province, country_name) of all the departments

2. Write a query to find the name (first_name, last name), department ID and name of all the employees

3. Write a query to find the name (first_name, last_name), job, department ID and name of the employees who works in London

4. Write a query to find the employee id, name (last_name) along with their manager_id and name (last_name)

5. Write a query to find the name (first_name, last_name) and hire date of the employees who was hired after 'Jones'

6. Write a query to get the department name and number of employees in the department

7. Write a query to display department name, name (first_name, last_name), hire date, salary of the manager for all managers whose experience is more than 15 years

8. Write a 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'

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

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

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

12. Write a 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

13. Write a 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

14. Write a 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.

15. Write a 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

SOLUTIONS

/**********QUESTION 1**********

Write a query to find the addresses (location_id, street_address, city, state_province, country_name) of all the departments *********/

```
SELECT locations.location_id, locations.street_address, locations.city, locations.state_province,
countries.country_name

FROM departments

JOIN locations ON departments.location_id = locations.location_id

JOIN countries ON locations.country_id = countries.country_id;
```

/**********QUESTION 2**********

Write a query to find the name (first_name, last name), department ID and name of all the employees *********/

```
SELECT employees.first_name, employees.last_name, employees.department_id,
departments.department_name

FROM employees

JOIN departments ON employees.department_id = departments.department_id;
```

/**********QUESTION 3**********

Write a query to find the name (first_name, last_name), job, department ID and name of the employees who works in London *********/

```
SELECT employees.first_name, employees.last_name, jobs.job_title, employees.department_id,
departments.department_name

FROM employees

JOIN jobs ON employees.job_id = jobs.job_id

JOIN departments ON employees.department_id = departments.department_id

JOIN locations ON departments.location_id = locations.location_id

WHERE locations.city = 'London';
```

```
/************************QUESTION 4*************************
Write a query to find the employee id, name (last_name) along with their manager_id and name
(last_name) *********/

SELECT
   employees.employee_id,
   employees.last_name AS employee_last_name,
   employees.manager_id,
   managers.last_name AS manager_last_name
FROM
   employees
      JOIN
   employees AS managers ON employees.manager_id = managers.employee_id;

/************************QUESTION 5*************************
Write a query to find the name (first_name, last_name) and hire date of the employees who was
hired after 'Jones'*********/

SELECT first_name, last_name, hire_date
FROM employees
WHERE hire_date > (
   SELECT hire_date
   FROM employees
   WHERE last_name = 'Jones'
);

/************************QUESTION 6*************************
Write a query to get the department name and number of employees in the department *********/

SELECT departments.department_name, COUNT(employees.employee_id) AS num_employees
FROM departments
LEFT JOIN employees ON departments.department_id = employees.department_id
```

```
GROUP BY departments.department_name;


/************************QUESTION 7************************

Write a query to display department name, name (first_name, last_name), hire date, salary of the manager for all managers whose experience is more than 15 years *********/


SELECT d.department_name, CONCAT(e.first_name, ' ', e.last_name) AS manager_name, e.hire_date, e.salary

FROM employees e

JOIN departments d ON e.department_id = d.department_id

WHERE e.employee_id IN (

  SELECT manager_id

  FROM employees

  WHERE hire_date <= DATE_SUB(CURDATE(), INTERVAL 15 YEAR)

)

ORDER BY d.department_name;



/************************QUESTION 8************************

 Write a 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'********/


SELECT first_name, last_name, salary

FROM employees

WHERE salary > (

   SELECT salary

   FROM employees

   WHERE last_name = 'Bull'

);


/************************QUESTION 9************************
```

Write a query to find the name (first_name, last_name) of all employees who works in the IT department********/

```
SELECT first_name, last_name
FROM employees
WHERE department_id = (
  SELECT department_id
  FROM departments
  WHERE department_name = 'IT'
);
```

/************************QUESTION 10*************************

Write a query to find the name (first_name, last_name) of the employees who have a manager and worked in a USA based department********/

```
SELECT employees.first_name, employees.last_name
FROM employees
JOIN departments ON employees.department_id = departments.department_id
WHERE employees.manager_id IS NOT NULL
 AND departments.location_id IN (
  SELECT location_id
  FROM locations
  JOIN countries ON locations.country_id = countries.country_id
  WHERE countries.country_name = 'United States of America'
 );
```

/************************QUESTION 11*************************

Write a query to find the name (first_name, last_name), and salary of the employees whose salary is greater than the average salary********/

```
SELECT first_name, last_name, salary
FROM employees
```

```
WHERE salary > (
   SELECT AVG(salary)
   FROM employees
);

/************************QUESTION 12*************************
Write a 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********/

SELECT employees.first_name, employees.last_name, employees.salary
FROM employees
JOIN jobs ON employees.job_id = jobs.job_id
JOIN (
   SELECT job_id, MIN(salary) AS min_salary
   FROM employees
   GROUP BY job_id
) AS min_salaries ON employees.job_id = min_salaries.job_id AND employees.salary = min_salaries.min_salary;

/************************QUESTION 13*************************
Write a 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********/

SELECT employees.first_name, employees.last_name, employees.salary
FROM employees
JOIN departments ON employees.department_id = departments.department_id
WHERE employees.salary > (
   SELECT AVG(salary)
   FROM employees
)
AND departments.department_name LIKE 'IT%';
```

/**********QUESTION 14**********

Write a 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.********/

```
SELECT employees.first_name, employees.last_name, employees.salary
FROM employees
WHERE employees.salary = (
   SELECT MIN(salary)
   FROM employees
);
```

/**********QUESTION 15**********

Write a 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********/

```
SELECT first_name, last_name, salary
FROM employees
WHERE salary > (
   SELECT MAX(salary)
   FROM employees
   WHERE job_id = 'SH_CLERK'
)
ORDER BY salary;
```