Name: Shaik Julfeen Ahmadh
Reg.No: 12110554

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.
7. 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.

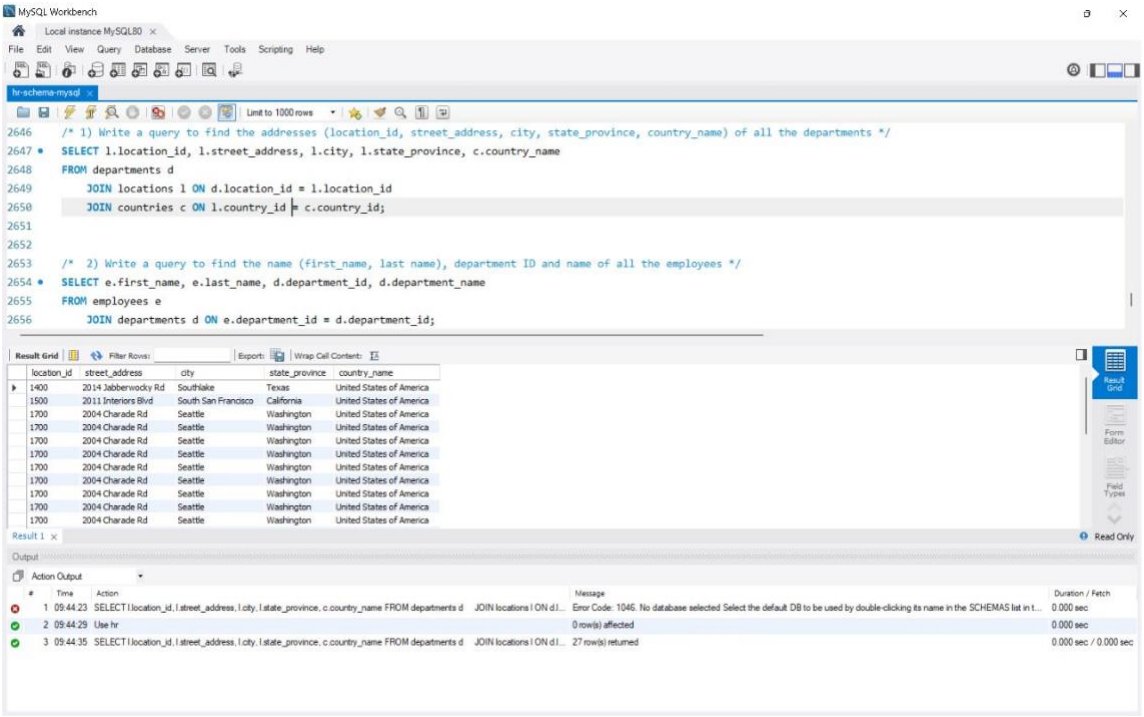
Data Set Link - https://www.kaggle.com/datasets/sirajahmad/hr-schema-mysql

Tasks and answers

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

ANS:

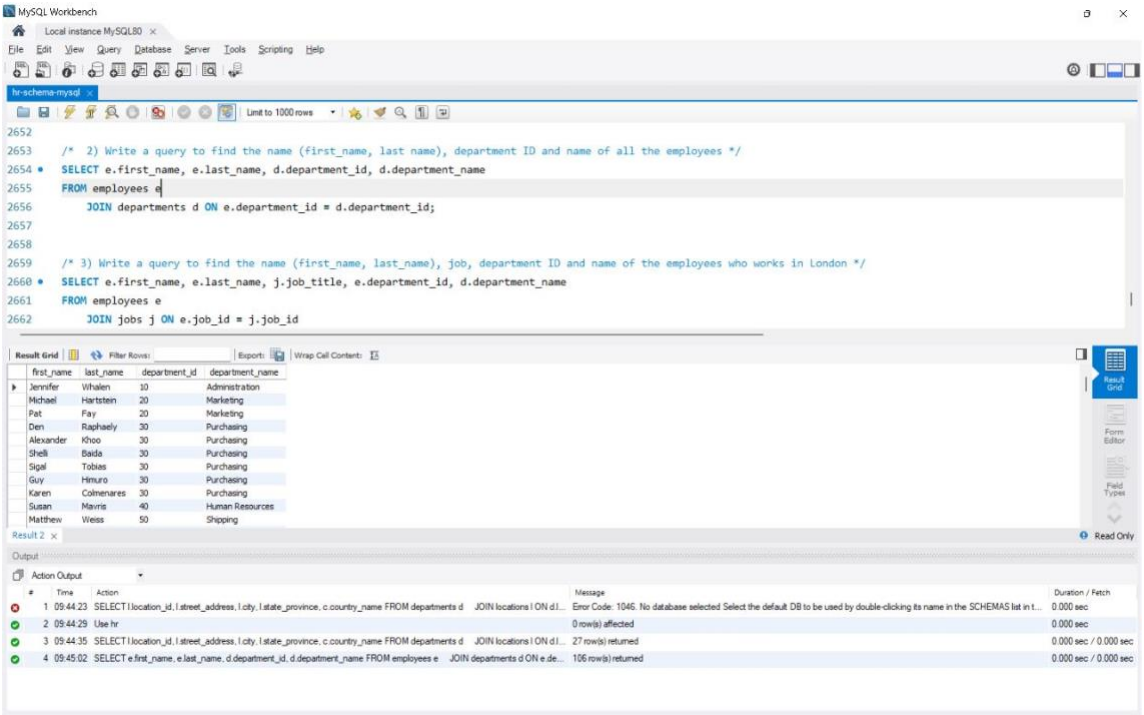
```
SELECT l.location_id, l.street_address, l.city, l.state_province,
c.country_name

FROM departments d

    JOIN locations l ON d.location_id = l.location_id

    JOIN countries c ON l.country_id = c.country_id;
```



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

ANS:

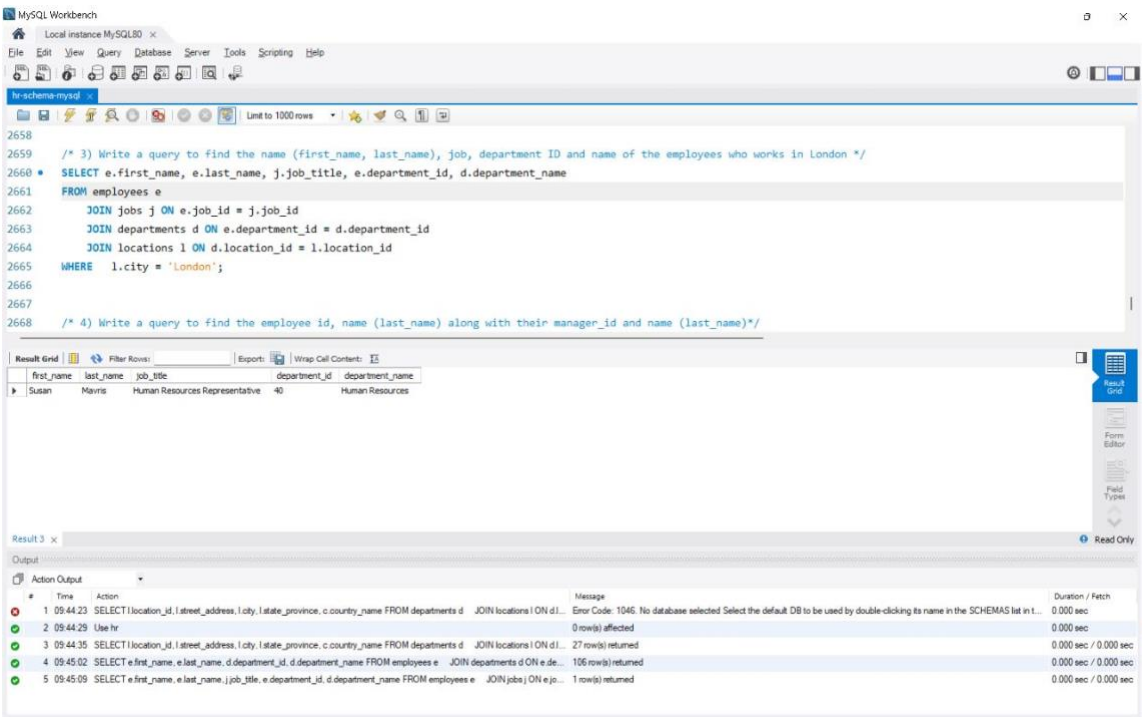
```
SELECT e.first_name, e.last_name, d.department_id, d.department_name
FROM employees e
    JOIN departments d ON e.department_id = d.department_id;
```



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

ANS:

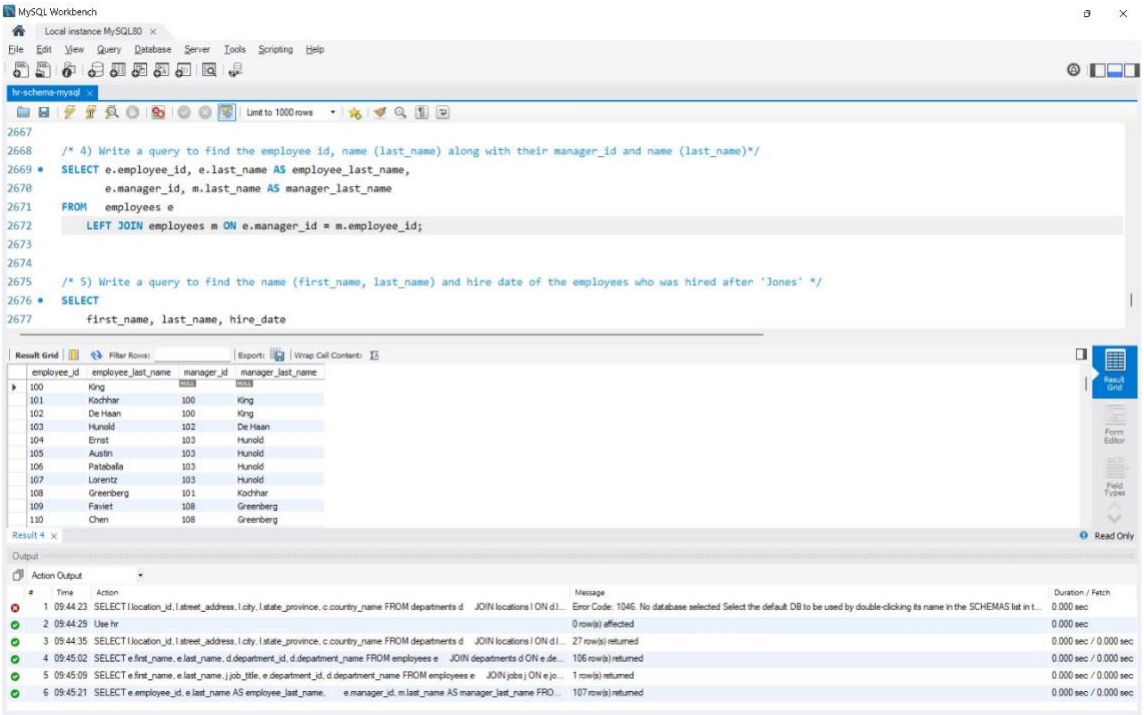
```
SELECT e.first_name, e.last_name, j.job_title, e.department_id,
d.department_name

FROM employees e

        JOIN jobs j ON e.job_id = j.job_id

       JOIN departments d ON e.department_id = d.department_id

       JOIN locations l ON d.location_id = l.location_id

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



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

ANS:

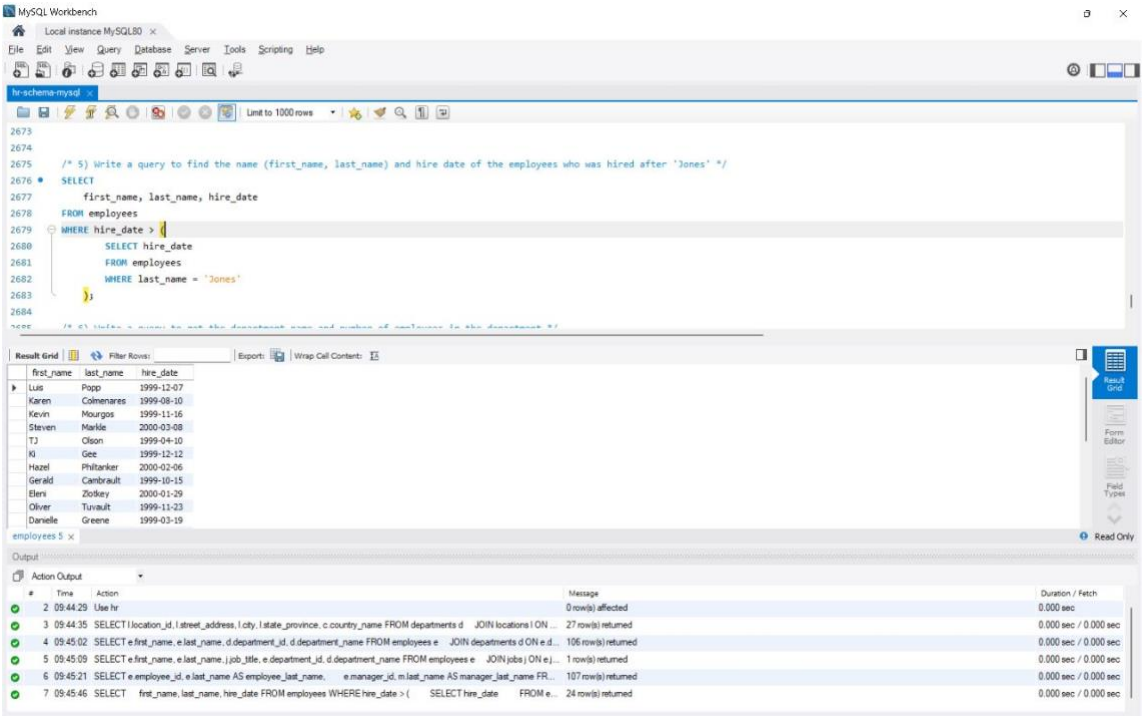
```
SELECT e.employee_id, e.last_name AS employee_last_name,
e.manager_id, m.last_name AS manager_last_name

FROM   employees e

        LEFT JOIN employees m ON e.manager_id = m.employee_id;
```



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

ANS:

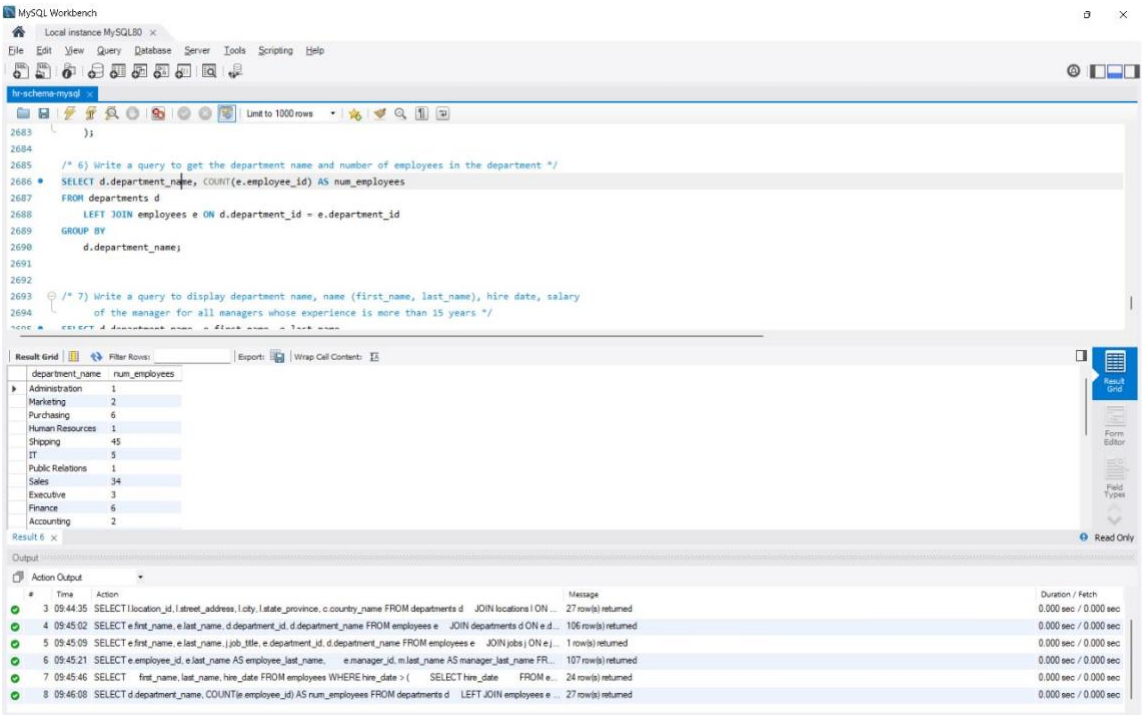
```
SELECT first_name, last_name, hire_date

FROM employees

WHERE hire_date > (     SELECT hire_date

        FROM employees

        WHERE last_name = 'Jones'

    );
```



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

ANS:

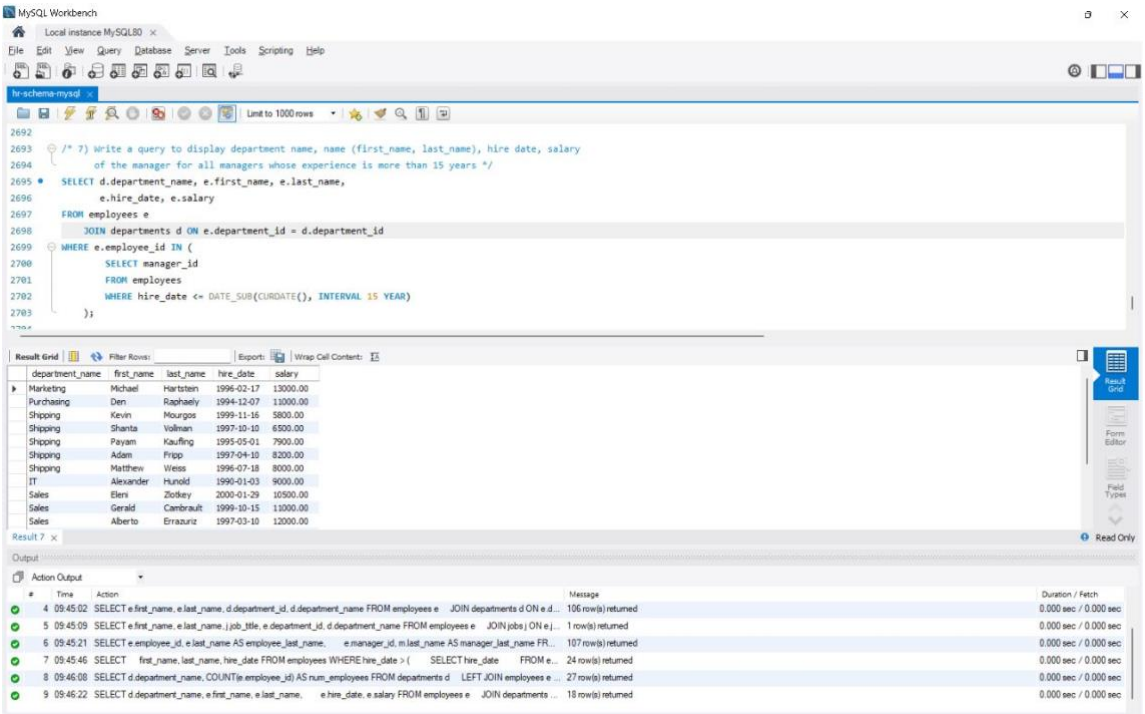
```
SELECT d.department_name, COUNT(e.employee_id) AS num_employees
FROM departments d
    LEFT JOIN employees e ON d.department_id = e.department_id
GROUP BY
d.department_name;
```



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

ANS:

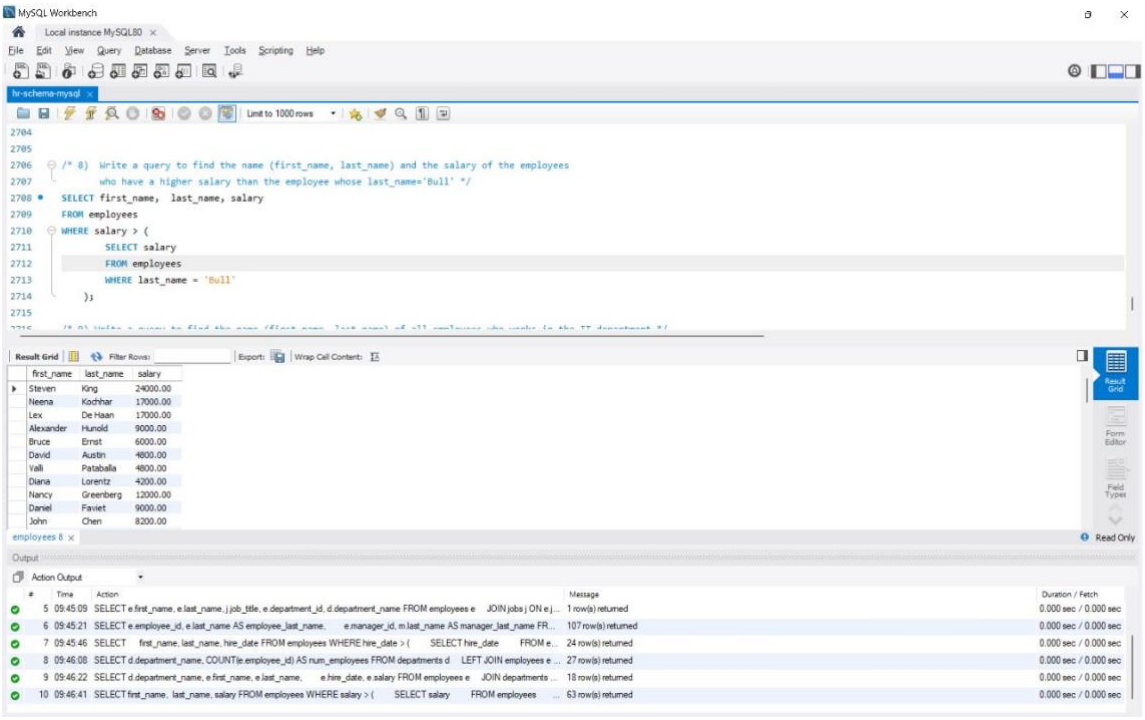
```
SELECT d.department_name, e.first_name, e.last_name,
    e.hire_date, e.salary
FROM employees e
  JOIN departments d ON e.department_id = d.department_id
    WHERE e.employee_id IN (
        SELECT manager_id
        FROM employees
        WHERE hire_date <= DATE_SUB(CURDATE(), INTERVAL 15 YEAR)
      );
```



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'

ANS:

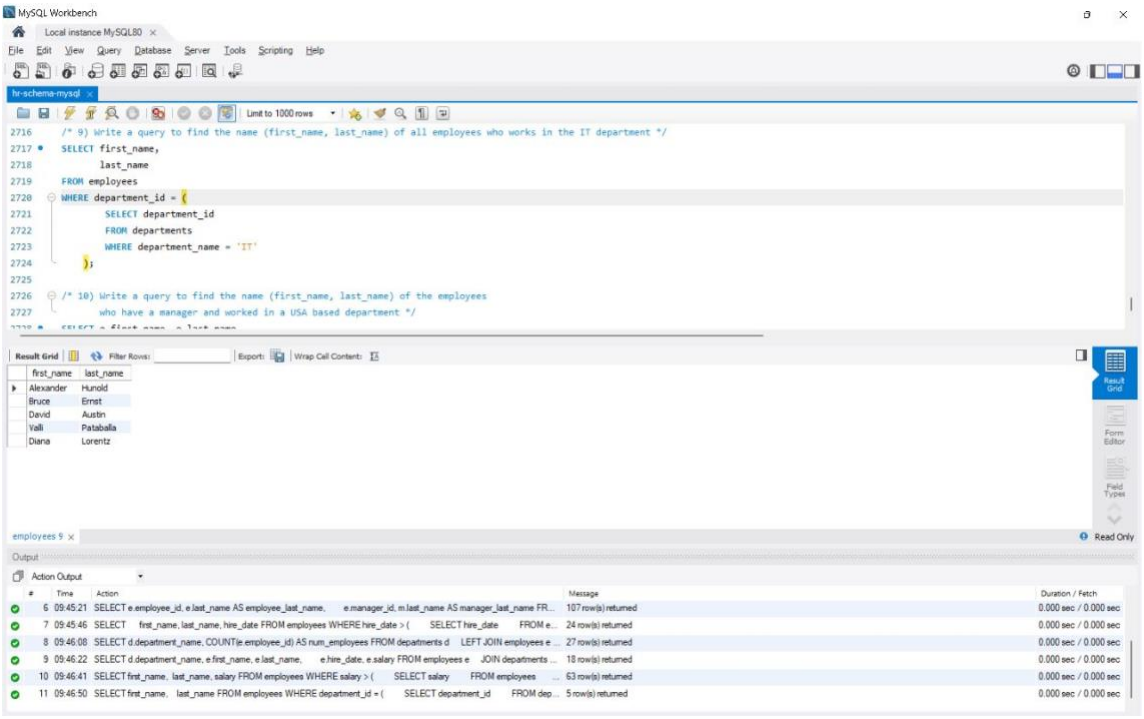
```
SELECT first_name,  last_name, salary

FROM employees

WHERE salary > (

      SELECT salary

      FROM employees

      WHERE last_name = 'Bull'

   );
```



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

ANS:

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

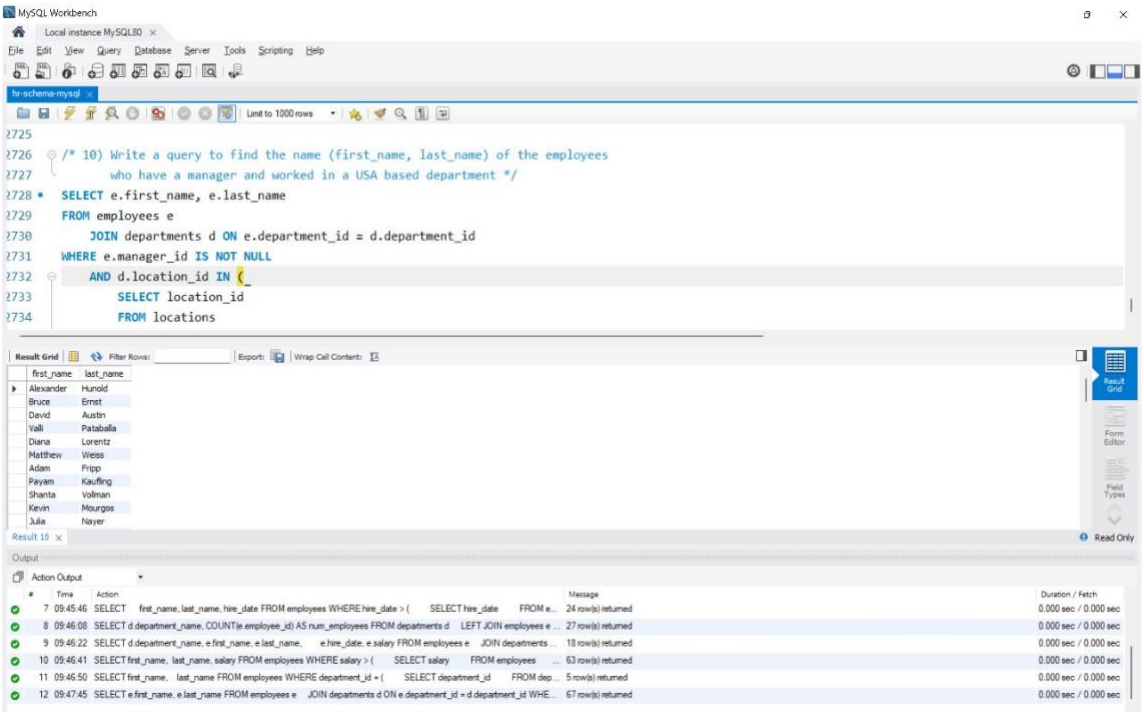


10) Write a query to find the name (first_name, last_name) of the employees who have a manager and worked in a USA based department

ANS:

```
SELECT e.first_name, e.last_name
FROM employees e
```

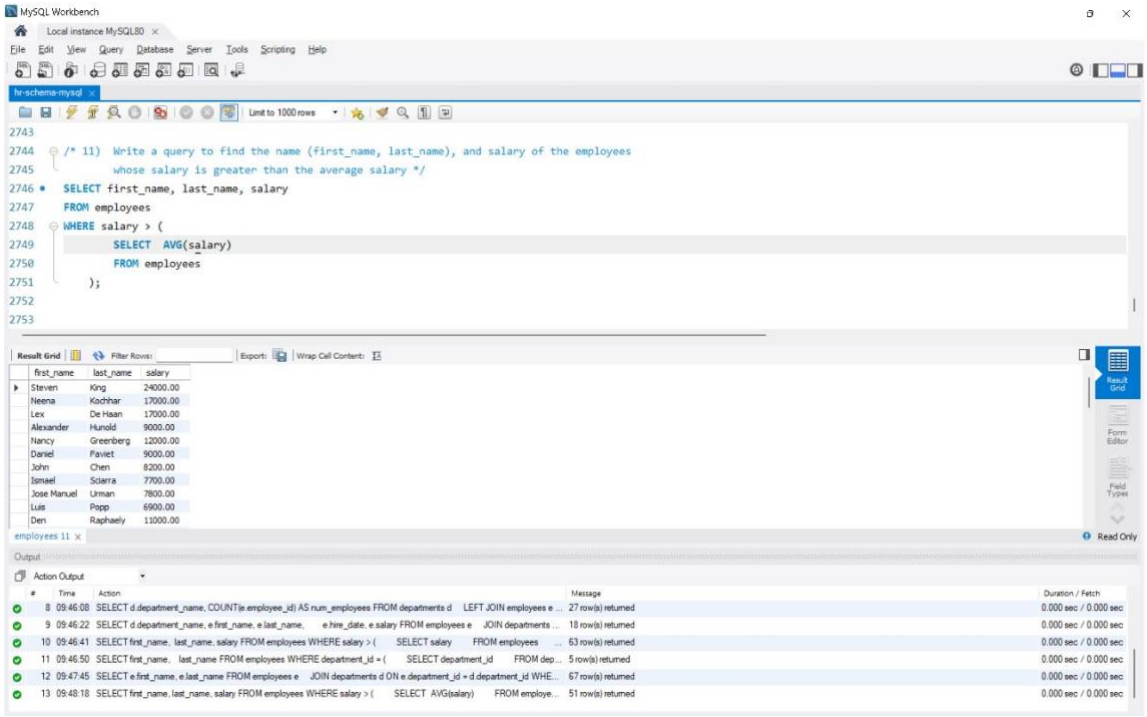
```
    JOIN departments d ON e.department_id = d.department_id
WHERE e.manager_id IS NOT NULL
    AND d.location_id IN (
        SELECT location_id
        FROM locations
        WHERE country_id =
            (
                SELECT country_id
                FROM countries
                WHERE country_name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



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

ANS:

```
SELECT first_name, last_name, salary
FROM employees
WHERE salary > (
      SELECT  AVG(salary)
      FROM employees
   );
```

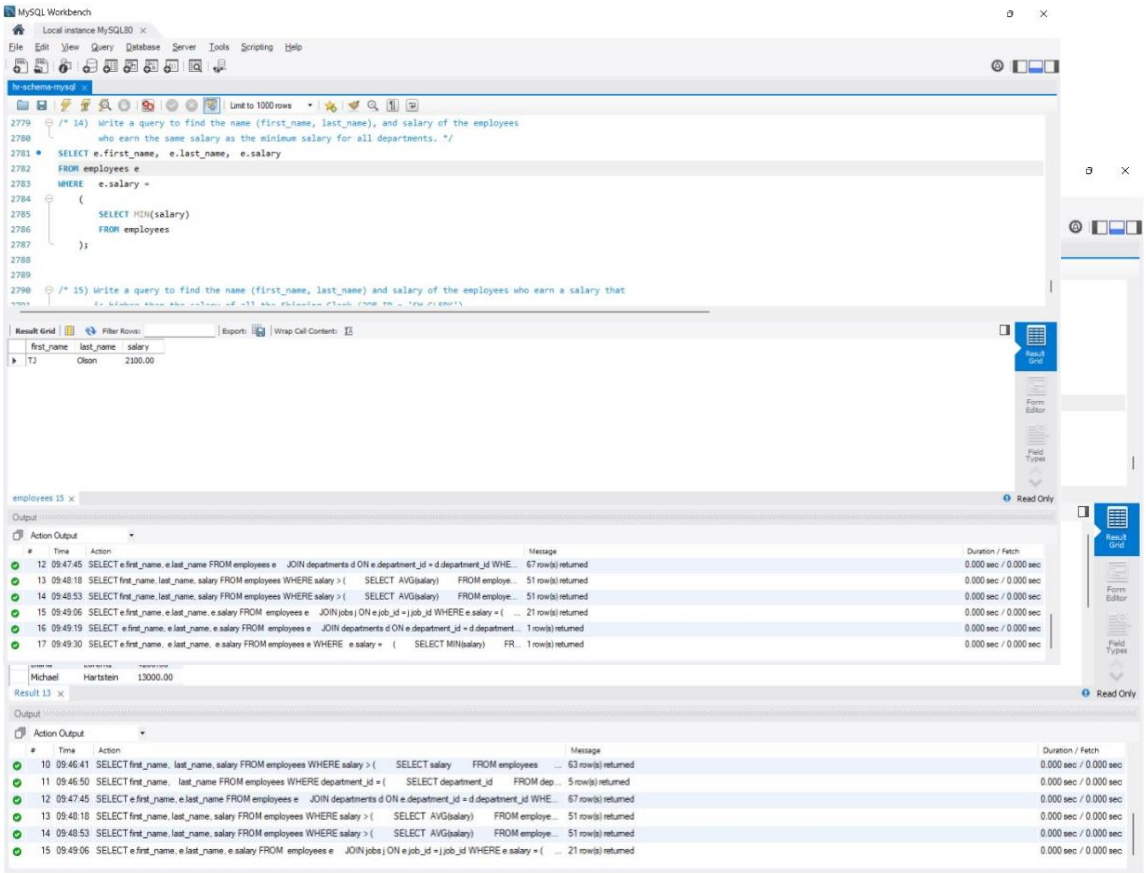


12) Write a query to find the name (first_name, last_name), and salary of the employees whose salary is equal to the minimum salary for their job grade

ANS:

```
SELECT e.first_name, e.last_name, e.salary
FROM  employees e
   JOIN jobs j ON e.job_id = j.job_id
WHERE e.salary = (
      SELECT     MIN(salary)
      FROM     employees
```

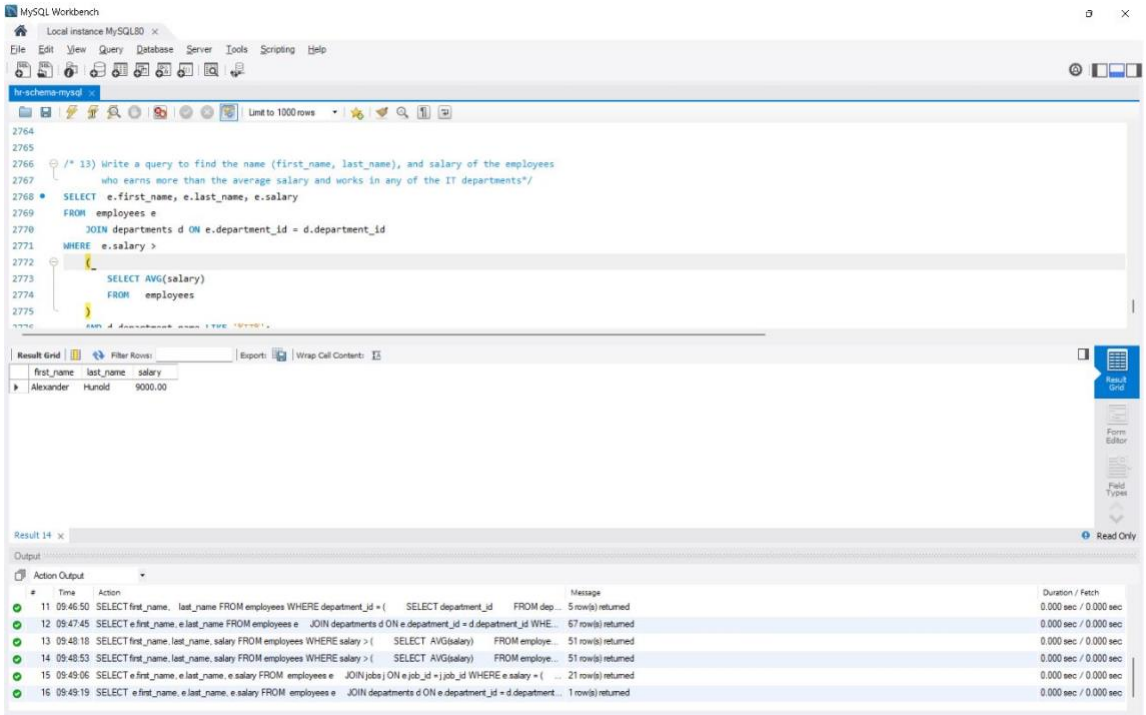
WHERE job_id = e.job_id



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

ANS:

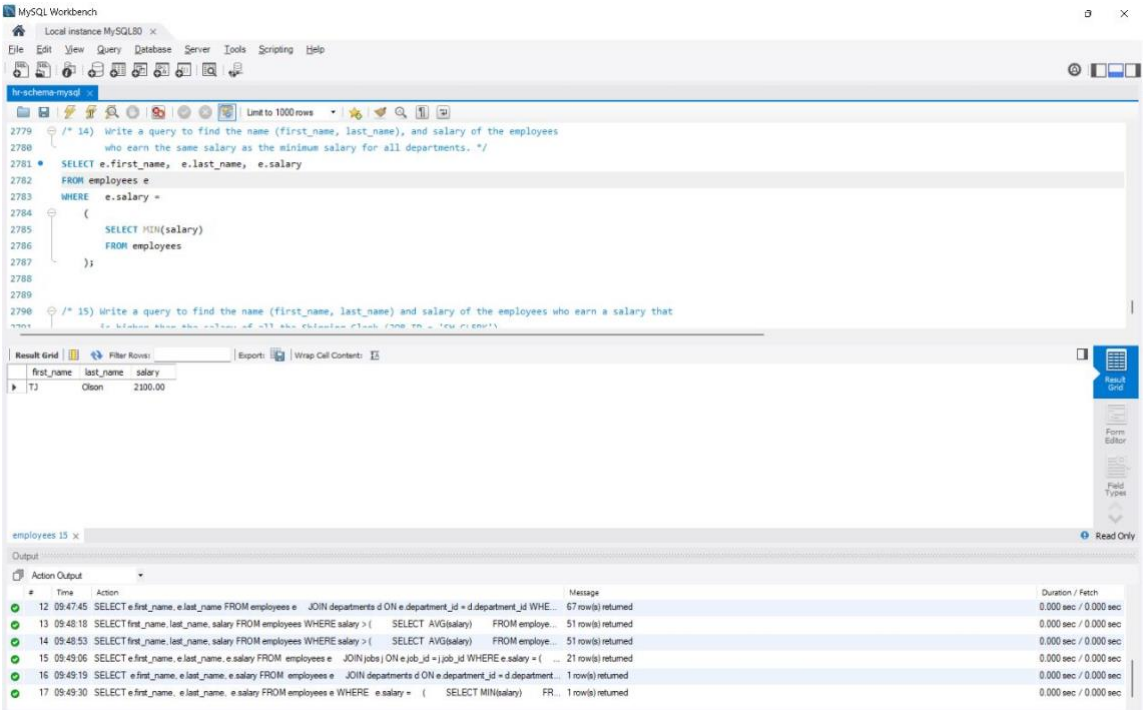
SELECT e.first_name, e.last_name, e.salary



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.

ANS:

```
SELECT e.first_name,  e.last_name,  e.salary

FROM employees e

WHERE   e.salary =

   (

      SELECT MIN(salary)

      FROM employees

   );
```



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

ANS:

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