ASSIGNMENT#4

Use the "hrdb_part2.sql" (under Experiments tab in D2L) to create more tables in the "hrdb" database that you created in your Assignment 3. After you created the tables, use "show tables;", and attach the screenshot to your solution

```
mysql> show tables;
+----------------+
| Tables_in_hrdb |
+----------------+
| countries      |
| departments    |
| employees      |
| job_history    |
| jobs           |
| locations      |
| regions        |
+----------------+
7 rows in set (0.00 sec)
```

1. 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');

```
mysql> 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 |
| David       | Austin    |  4800.00 |
| Valli       | Pataballa |  4800.00 |
| Diana       | Lorentz   |  4200.00 |
| Nancy       | Greenberg | 12000.00 |
| Daniel      | Faviet    |  9000.00 |
| John        | Chen      |  8200.00 |
| Ismael      | Sciarra   |  7700.00 |
| Jose Manuel | Urman     |  7800.00 |
| Luis        | Popp      |  6900.00 |
| Den         | Raphaely  | 11000.00 |
| Matthew     | Weiss     |  8000.00 |
| Adam        | Fripp     |  8200.00 |
| Payam       | Kaufling  |  7900.00 |
| Shanta      | Vollman   |  6500.00 |
| Kevin       | Mourgos   |  5800.00 |
| John        | Russell   | 14000.00 |
| Karen       | Partners  | 13500.00 |
| Alberto     | Errazuriz | 12000.00 |
| Gerald      | Cambrault | 11000.00 |
| Eleni       | Zlotkey   | 10500.00 |
| Peter       | Tucker    | 10000.00 |
| David       | Bernstein |  9500.00 |
```

2. 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 in (select DEPARTMENT_ID from departments where department_name='IT');

```
mysql> 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   |
+------------+-----------+
5 rows in set (0.02 sec)
```

3. 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 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')));

```
mysql> 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 (selec
t location_id from locations where country_id='US')));
+------------+------------+
| FIRST_NAME | LAST_NAME  |
+------------+------------+
| Alexander  | Khoo       |
| Shelli     | Baida      |
| Sigal      | Tobias     |
| Guy        | Himuro     |
| Karen      | Colmenares |
| Julia      | Nayer      |
| Irene      | Mikkilineni |
| James      | Landry     |
| Steven     | Markle     |
| Winston    | Taylor     |
| Jean       | Fleaur     |
| Martha     | Sullivan   |
| Girard     | Geoni      |
| Laura      | Bissot     |
| Mozhe      | Atkinson   |
| James      | Marlow     |
| TJ         | Olson      |
| Nandita    | Sarchand   |
| Alexis     | Bull       |
| Julia      | Dellinger  |
| Anthony    | Cabrio     |
| Jason      | Mallin     |
| Michael    | Rogers     |
```

4. 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);

```
mysql> 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 |
| Daniel      | Faviet     |  9000.00 |
| John        | Chen       |  8200.00 |
| Ismael      | Sciarra    |  7700.00 |
| Jose Manuel | Urman      |  7800.00 |
| Luis        | Popp       |  6900.00 |
| Den         | Raphaely   | 11000.00 |
| Matthew     | Weiss      |  8000.00 |
| Adam        | Fripp      |  8200.00 |
| Payam       | Kaufling   |  7900.00 |
| Shanta      | Vollman    |  6500.00 |
| John        | Russell    | 14000.00 |
| Karen       | Partners   | 13500.00 |
| Alberto     | Errazuriz  | 12000.00 |
| Gerald      | Cambrault  | 11000.00 |
| Eleni       | Zlotkey    | 10500.00 |
| Peter       | Tucker     | 10000.00 |
```

5. 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. 1

SELECT first_name, last_name, salary FROM employees WHERE employees.salary = (SELECT min_salary FROM jobs WHERE employees.job_id = jobs.job_id);

```
mysql> 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 |
+------------+-----------+---------+
```

6. 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 FIRST_NAME,LAST_NAME,SALARY FROM employees WHERE salary = (SELECT MIN(salary) FROM employees);

```
mysql> SELECT FIRST_NAME,LAST_NAME,SALARY FROM employees WHERE salary = (SELECT MIN(salary) FROM employees);
+------------+-----------+---------+
| FIRST_NAME | LAST_NAME | SALARY  |
+------------+-----------+---------+
| TJ         | Olson     | 2100.00 |
+------------+-----------+---------+
1 row in set (0.00 sec)

mysql>
```

7. Write a query to find the 4th minimum salary in the employees table.

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

```
mysql> SELECT DISTINCT salary FROM employees e1 WHERE 4 = (SELECT COUNT(DISTINCT salary) FROM employees  e2 WHERE e2.salary <= e1.salary);
+---------+
| salary  |
+---------+
| 2500.00 |
+---------+
1 row in set (0.01 sec)
```

8. Write a query to get 3 minimum salaries.

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;

```
mysql> 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  |
+---------+
| 2400.00 |
| 2200.00 |
| 2100.00 |
+---------+
3 rows in set (0.02 sec)
```

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

SELECT location_id, street_address, city, state_province, country_name FROM locations NATURAL JOIN countries;

```
mysql> SELECT location_id, street_address, city, state_province, country_name FROM locations NATURAL JOIN countries;
+-------------+--------------------------+--------------------+------------------+--------------------------+
| location_id | street_address           | city               | state_province   | country_name             |
+-------------+--------------------------+--------------------+------------------+--------------------------+
|        1000 | 1297 Via Cola di Rie     | Roma               |                  | Italy                    |
|        1100 | 93091 Calle della Testa  | Venice             |                  | Italy                    |
|        1200 | 2017 Shinjuku-ku         | Tokyo              | Tokyo Prefecture | Japan                    |
|        1300 | 9450 Kamiya-cho          | Hiroshima          |                  | Japan                    |
|        1400 | 2014 Jabberwocky Rd      | Southlake          | Texas            | United States of America |
|        1500 | 2011 Interiors Blvd      | South San Francisco | California       | United States of America |
|        1600 | 2007 Zagora St           | South Brunswick    | New Jersey       | United States of America |
|        1700 | 2004 Charade Rd          | Seattle            | Washington       | United States of America |
|        1800 | 147 Spadina Ave          | Toronto            | Ontario          | Canada                   |
|        1900 | 6092 Boxwood St          | Whitehorse         | Yukon            | Canada                   |
|        2000 | 40-5-12 Laogianggen      | Beijing            |                  | China                    |
|        2100 | 1298 Vileparle (E)       | Bombay             | Maharashtra      | India                    |
|        2200 | 12-98 Victoria Street    | Sydney             | New South Wales  | Australia                |
|        2300 | 198 Clementi North       | Singapore          |                  | Singapore                |
|        2400 | 8204 Arthur St           | London             |                  | United Kingdom           |
|        2600 | 9702 Chester Road        | Stretford          | Manchester       | United Kingdom           |
|        2700 | Schwanthalerstr. 7031    | Munich             | Bavaria          | Germany                  |
|        2800 | Rua Frei Caneca 1360     | Sao Paulo          | Sao Paulo        | Brazil                   |
|        2900 | 20 Rue des Corps-Saints  | Geneva             | Geneve           | Switzerland              |
|        3000 | Murtenstrasse 921        | Bern               | BE               | Switzerland              |
|        3100 | Pieter Breughelstraat 837 | Utrecht            | Utrecht          | Netherlands              |
+-------------+--------------------------+--------------------+------------------+--------------------------+
21 rows in set (0.00 sec)
```

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

SELECT e.first_name, e.last_name, e.job_id, e.department_id, d.department_name FROM employees e JOIN departments d ON (e.department_id = d.department_id) JOIN locations l ON (d.location_id = l.location_id) WHERE LOWER(l.city) = 'London';

```
mysql> SELECT e.first_name, e.last_name, e.job_id, e.department_id, d.department_name FROM employees e
    -> JOIN departments d ON (e.department_id = d.department_id) JOIN locations l ON (d.location_id = l.location_id) WHERE LOWER(l.city) = 'London';
+------------+-----------+--------+---------------+-----------------+
| first_name | last_name | job_id | department_id | department_name |
+------------+-----------+--------+---------------+-----------------+
| Susan      | Mavris    | HR_REP |            40 | Human Resources |
+------------+-----------+--------+---------------+-----------------+
1 row in set (0.01 sec)
```

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

SELECT e.first_name, e.last_name, e.hire_date FROM employees e JOIN employees davies ON (davies.last_name = 'Jones') WHERE davies.hire_date < e.hire_date;

```
mysql> SELECT e.first_name, e.last_name, e.hire_date FROM employees e JOIN employees davies ON (davies.last_name = 'Jones') WHERE davies.hire_date < e.hire_date;
+------------+-----------+------------+
| first_name | last_name | hire_date  |
+------------+-----------+------------+
| Alana      | Walsh     | 1987-09-21 |
| Kevin      | Feeney    | 1987-09-22 |
| Donald     | OConnell  | 1987-09-23 |
| Douglas    | Grant     | 1987-09-24 |
| Jennifer   | Whalen    | 1987-09-25 |
| Michael    | Hartstein | 1987-09-26 |
| Pat        | Fay       | 1987-09-27 |
| Susan      | Mavris    | 1987-09-28 |
| Hermann    | Baer      | 1987-09-29 |
| Shelley    | Higgins   | 1987-09-30 |
| William    | Gietz     | 1987-10-01 |
+------------+-----------+------------+
11 rows in set (0.00 sec)
```

12. 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 first_name, last_name, hire_date, salary, (DATEDIFF(now(), hire_date))/365 Experience FROM departments d JOIN employees e ON (d.manager_id = e.employee_id) WHERE (DATEDIFF(now(), hire_date))/365>15;

```
mysql> SELECT first_name, last_name, hire_date, salary,
    -> (DATEDIFF(now(), hire_date))/365 Experience
    -> FROM departments d JOIN employees e
    -> ON (d.manager_id = e.employee_id)
    -> WHERE (DATEDIFF(now(), hire_date))/365>15;
+------------+-----------+------------+----------+------------+
| first_name | last_name | hire_date  | salary   | Experience |
+------------+-----------+------------+----------+------------+
| Steven     | King      | 1987-06-17 | 24000.00 |    33.6959 |
| Alexander  | Hunold    | 1987-06-20 |  9000.00 |    33.6877 |
| Nancy      | Greenberg | 1987-06-25 | 12000.00 |    33.6740 |
| Den        | Raphaely  | 1987-07-01 | 11000.00 |    33.6575 |
| Adam       | Fripp     | 1987-07-08 |  8200.00 |    33.6384 |
| John       | Russell   | 1987-08-01 | 14000.00 |    33.5726 |
| Jennifer   | Whalen    | 1987-09-25 |  4400.00 |    33.4219 |
| Michael    | Hartstein | 1987-09-26 | 13000.00 |    33.4192 |
| Susan      | Mavris    | 1987-09-28 |  6500.00 |    33.4137 |
| Hermann    | Baer      | 1987-09-29 | 10000.00 |    33.4110 |
| Shelley    | Higgins   | 1987-09-30 | 12000.00 |    33.4082 |
+------------+-----------+------------+----------+------------+
11 rows in set (0.01 sec)
```