Information System - Lab work 7

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10 November 2017

Database

- employees (emp_no, birth_date, first_name, last_name, gender)
- departments (dept_no, dept_name)
- dept_emp (emp_no, dept_no, from_date, to_date)
- dept_manager (dept_no, emp_no, from_date, to_date)
- titles (emp_no, title, from_date, to_date)
- salaries (emp_no, salary, from_date, to_date)

SQL queries using view

1. Who have the same name as the managers of the "Finance" department?

```
CREATE VIEW  SameNameFinanceManager AS
SELECT emp_no, CONCAT(first_name, "", last_name) AS full_name
FROM employees WHERE last_name IN (
        SELECT last_name
    FROM dept_manager
    JOIN employees
    ON dept_manager.emp_no = employees.emp_no
    JOIN departments
    ON dept_manager.dept_no = departments.dept_no
        WHERE dept_name = "Finance");

SELECT * FROM SameNameFinanceManager;
```

2. Who in the "Production" department were hired after the promotion of the last manager in that departments?

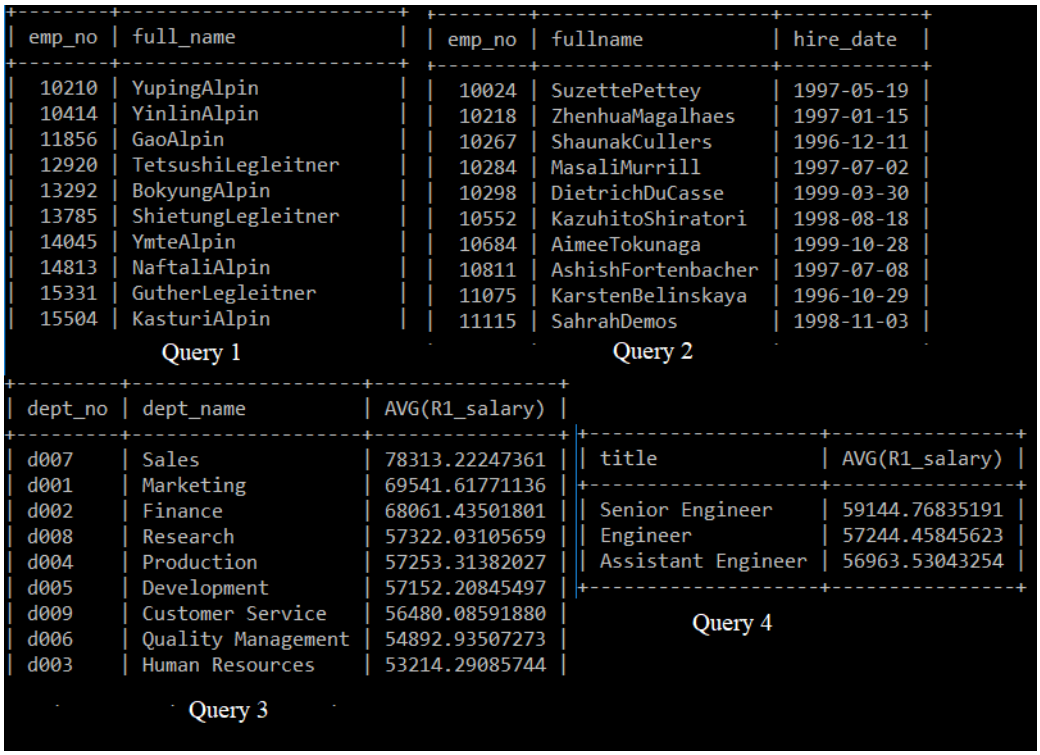
```
CREATE VIEW  HiredInProductionFromLastManager AS
SELECT employees.emp_no,
CONCAT(first_name, "", last_name) AS fullname, hire_date
FROM employees
JOIN (SELECT emp_no FROM departments
          NATURAL JOIN dept_emp
          WHERE dept_name = 'Production') AS R1
          ON employees.emp_no = R1.emp_no
          WHERE hire_date > (SELECT MAX(from_date)
                        FROM dept_manager
                        NATURAL JOIN departments
                        WHERE dept_name = 'Production');

SELECT * FROM  HiredInProductionFromLastManager;
```

3. Find the average salary of each department, from highest to lowest.

```
CREATE VIEW R1 AS
SELECT emp_no, AVG(salary) AS R1_salary
FROM salaries GROUP BY emp_no;

CREATE VIEW R2 AS
SELECT emp_no,dept_emp.dept_no, dept_name
FROM dept_emp
JOIN departments ON dept_emp.dept_no = departments.dept_no;

SELECT dept_no, dept_name, AVG(R1_salary)
FROM R1 JOIN R2 ON R2.emp_no = R1.emp_no
GROUP BY dept_name
ORDER BY AVG(R1_salary) DESC;
```

4. Find the average salary for each type of Engineer, from highest to lowest.

```
CREATE VIEW R3 AS
SELECT emp_no, AVG(salary) AS R3_salary
FROM salaries GROUP BY emp_no;

CREATE VIEW R4 AS
SELECT title, emp_no
FROM titles WHERE title LIKE '%Engineer%';

SELECT title, AVG(R3_salary)
FROM R3
JOIN R4 ON R3.emp_no = R4.emp_no
GROUP BY title
ORDER BY AVG(R3_salary) DESC;
```



emp_no	full_name
10210	YupingAlpin
10414	YinlinAlpin
11856	GaoAlpin
12920	TetsushiLegleitner
13292	BokyungAlpin
13785	ShietungLegleitner
14045	YmteAlpin
14813	NaftaliAlpin
15331	GutherLegleitner
15504	KasturiAlpin

Query 1

emp_no	fullname	hire_date
10024	SuzettePettey	1997-05-19
10218	ZhenhuaMagalhaes	1997-01-15
10267	ShaunakCullers	1996-12-11
10284	MasaliMurrill	1997-07-02
10298	DietrichDuCasse	1999-03-30
10552	KazuhitoShiratori	1998-08-18
10684	AimeeTokunaga	1999-10-28
10811	AshishFortenbacher	1997-07-08
11075	KarstenBelinskaya	1996-10-29
11115	SahrahDemos	1998-11-03

Query 2

dept_no	dept_name	AVG(R1_salary)
d007	Sales	78313.22247361
d001	Marketing	69541.61771136
d002	Finance	68061.43501801
d008	Research	57322.03105659
d004	Production	57253.31382027
d005	Development	57152.20845497
d009	Customer Service	56480.08591880
d006	Quality Management	54892.93507273
d003	Human Resources	53214.29085744

Query 3

title	AVG(R1_salary)
Senior Engineer	59144.76835191
Engineer	57244.45845623
Assistant Engineer	56963.53043254

Query 4

Figure 1: Results

Results

The figure 1 presents the results after implement queries (limit from 0 to 10 for some long results) above: