

# Information System - Lab work 6

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## 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 subqueries

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

```
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");
```

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

```
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 subquery1
ON employees.emp_no = subquery1.emp_no
WHERE hire_date > (SELECT MAX(from_date)
FROM dept_manager
NATURAL JOIN departments
WHERE dept_name = 'Production');

```

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

```

SELECT dept_no, AVG(salary)
FROM (SELECT salary, dept_no
FROM salaries JOIN dept_emp
ON dept_emp.emp_no = salaries.emp_no) AS subquery
GROUP BY dept_no
ORDER BY AVG(salary) DESC;

```

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

```

SELECT * FROM (SELECT title, salary FROM titles
JOIN salaries ON salaries.emp_no = titles.emp_no
WHERE title LIKE '%Engineer%') AS subquery
GROUP BY title
ORDER BY AVG(salary) DESC;

```

## Results

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

emp_no	full_name	emp_no	fullname	hire_date
10210	YupingAlpin	10024	SuzettePettey	1997-05-19
10414	YinlinAlpin	10218	ZenhuaMagalhaes	1997-01-15
11856	GaoAlpin	10267	ShaunakCullers	1996-12-11
12920	Tetsushilegleitner	10284	MasaliMurrill	1997-07-02
13292	BokyoungAlpin	10298	DietrichDuCasse	1999-03-30
13785	ShietungLegleitner	10552	KazuhitoShiratori	1998-08-18
14045	YmteAlpin	10684	AimeeTokunaga	1999-10-28
14813	NaftaliAlpin	10811	AshishFortenbacher	1997-07-08
15331	GutherLegleitner	11075	KarstenBelinskaya	1996-10-29
15504	KasturiAlpin	11115	SahrahDemos	1998-11-03

  

Query 1

dept_no	AVG(salary)
d007	80667.6058
d001	71913.2000
d002	70489.3649
d008	59665.1817
d004	59605.4825
d005	59478.9012
d009	58770.3665
d006	57251.2719
d003	55574.8794

Query 3

Query 2

title	salary
Senior Engineer	60117
Engineer	40054
Assistant Engineer	46671

Query 4

Figure 1: Results