

Information System - Lab work 3

Tran Thi Hong Hanh

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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

1. All info of all employees.

```
SELECT * FROM employees ;
```

2. All info of all departments.

```
SELECT * FROM departments ;
```

3. Full names of all employees.

```
SELECT CONCAT(first_name , " " , last_name) AS full_name  
FROM employees ;
```

4. Name of all departments

```
SELECT dept_name FROM departments ;
```

5. Full names of employees working in "Sale" department.

```
SELECT CONCAT(first_name, "", last_name) AS full_name
FROM employees
JOIN dept_emp ON employees.emp_no = dept_emp.emp_no
JOIN departments ON dept_emp.dept_no = departments.dept_no
WHERE dept_name = 'Sales')
UNION
(SELECT CONCAT(first_name, "", last_name) AS full_name
FROM employees
JOIN dept_manager ON employees.emp_no = dept_manager.emp_no
JOIN departments ON dept_manager.dept_no = departments.dept_no
WHERE dept_name = 'Sales')
```

6. Full names of male employees working in "Finance" department.

```
SELECT CONCAT(first_name, "", last_name) as full_name
FROM employees
NATURAL JOIN departments
NATURAL JOIN dept_manager
WHERE dept_name ="Finance" AND gender="M"
UNION
SELECT CONCAT(first_name, "", last_name) as full_name
FROM employees
NATURAL JOIN departments
NATURAL JOIN dept_emp
WHERE dept_name ="Finance" and gender="M" ;
```

7. Salaries of female employees working in "Marketing" department.

```
SELECT CONCAT (first_name, "", last_name) AS full_name, salary
FROM salaries
NATURAL JOIN employees
NATURAL JOIN departments
WHERE gender="F" AND dept_name="Marketing";
```

8. Full names of employees who have the same last name as their manager.

```
SELECT R1.full_name
FROM SELECT CONCAT(first_name, "", last_name) AS full_name,
last_name, employees.emp_no AS empno
FROM employees
JOIN dept_emp
```

```

ON employees.emp_no = dept_emp.emp_no) AS R1
JOIN (SELECT last_name , employees.emp_no AS empno
FROM employees
JOIN dept_manager
ON employees.emp_no = dept_manager.emp_no) AS R2
ON R1.last_name = R2.last_name ;

```

9. Full names of managers who have been doing the job at least twice.

```

SELECT CONCAT(first_name , " " , last_name) AS full_name
FROM employees NATURAL JOIN dept_manager
GROUP BY emp_no
HAVING count(emp_no) > 1;

```

10. Full names of employees who was paid more than \$100000.

```

SELECT CONCAT(first_name , " " , last_name) AS full_name , salary
FROM employees NATURAL JOIN salaries
WHERE salary > 100000;

```

11. Names of all departments that have employees paid more than \$100000.

```

SELECT dept_name FROM dept_emp
NATURAL JOIN departments
NATURAL JOIN salaries
WHERE salary > 100000
UNION
SELECT dept_name FROM departments
NATURAL JOIN salaries
NATURAL JOIN dept_manager
WHERE salary > 100000;

```

Results

The figure below presents the results after implement 11 queries (limit from 1 to 10 for some long results) above:

emp_no	birth_date	first_name	last_name	gender	hire_date	dept_no	dept_name
10001	1953-09-02	Georgi	Facello	M	1986-06-26	d009	Customer Service
10002	1964-06-02	Bezalel	Simmel	F	1985-11-21	d005	Development
10003	1959-12-03	Parto	Bamford	M	1986-08-28	d002	Finance and Accounting
10004	1954-05-01	Chirstian	Koblick	M	1986-12-01	d003	Human Resources
10005	1955-01-21	Kyoichi	Maliniak	M	1989-09-12	d001	Marketing
10006	1953-04-20	Anneke	Preusig	F	1989-06-02	d004	Production
10007	1957-05-23	Tzvetan	Zielinski	F	1989-02-10	d006	Quality Management
10008	1958-02-19	Saniya	Kalloufi	M	1994-09-15	d008	Research
10009	1952-04-19	Sumant	Peac	F	1985-02-18	d007	Sales
10010	1963-06-01	Duangkaew	Piveteau	F	1989-08-24		

Query 1				Query 2		
full_name	dept_name	full_name	full_name	full_name	salary	
Georgi Facello	Customer Service	KazuhiroCappelletti	BezalelSimmel	BezalelSimmel	65828	
Bezalel Simmel	Development	BaderSwan	BezalelSimmel	BezalelSimmel	65909	
Parto Bamford	Finance and Accounting	UriLenart	BezalelSimmel	BezalelSimmel	67534	
Chirstian Koblick	Human Resources	YinghuaDredge	BezalelSimmel	BezalelSimmel	69366	
Kyoichi Maliniak	Marketing	SanjivZschoche	BezalelSimmel	BezalelSimmel	71963	
Anneke Preusig	Production	BreannaBillingsley	BezalelSimmel	BezalelSimmel	72527	
Tzvetan Zielinski	Quality Management	TseHerber	AnnekePreusig	AnnekePreusig	40000	
Saniya Kalloufi	Research	CharleneBrattka	AnnekePreusig	AnnekePreusig	42085	
Sumant Peac	Sales	XinglinEugenio	AnnekePreusig	AnnekePreusig	42629	
Duangkaew Piveteau		JungsoonSyrzycki	AnnekePreusig	AnnekePreusig	45844	

Query 3		Query 4		Query 6		Query 7	
full_name	full_name	full_name	salary	full_name	salary	dept_name	
Josyula Hofmeyr	PrzemyslawKaelbling	KweeSchusler	102425	KweeSchusler	102425	Development	
Yuping Alpin	HaukeZhang	KweeSchusler	102674	KweeSchusler	102674	Finance and Accounting	
Shirish Wegerle		KweeSchusler	103672	KweeSchusler	103672	Marketing	
Yagil DasSarma	Query 5	CharleneBrattka	100005	CharleneBrattka	100005	Sales	
Yinlin Alpin		CharleneBrattka	101829	CharleneBrattka	101829		
Janche Zhang		CharleneBrattka	101630	CharleneBrattka	101630	Query 11	
Ottavia Giaratana		CharleneBrattka	105533	CharleneBrattka	105533		
Zita Minakawa		CharleneBrattka	106204	CharleneBrattka	106204		
Sukumar Wegerle	Empty set (0.00 sec)	CharleneBrattka	108345	CharleneBrattka	108345		
Munenori Markovitch		CharleneBrattka	111623	CharleneBrattka	111623		

Query 8		Query 9		Query 10	
full_name	full_name	full_name	full_name	full_name	full_name
Josyula Hofmeyr	PrzemyslawKaelbling	KweeSchusler	KweeSchusler	KweeSchusler	KweeSchusler
Yuping Alpin	HaukeZhang	KweeSchusler	KweeSchusler	KweeSchusler	KweeSchusler
Shirish Wegerle		KweeSchusler	KweeSchusler	KweeSchusler	KweeSchusler
Yagil DasSarma	Query 5	CharleneBrattka	CharleneBrattka	CharleneBrattka	CharleneBrattka
Yinlin Alpin		CharleneBrattka	CharleneBrattka	CharleneBrattka	CharleneBrattka
Janche Zhang		CharleneBrattka	CharleneBrattka	CharleneBrattka	CharleneBrattka
Ottavia Giaratana		CharleneBrattka	CharleneBrattka	CharleneBrattka	CharleneBrattka
Zita Minakawa		CharleneBrattka	CharleneBrattka	CharleneBrattka	CharleneBrattka
Sukumar Wegerle	Empty set (0.00 sec)	CharleneBrattka	CharleneBrattka	CharleneBrattka	CharleneBrattka
Munenori Markovitch		CharleneBrattka	CharleneBrattka	CharleneBrattka	CharleneBrattka

Figure 1: Query 11's result