

Information System - Lab work 3

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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 0 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	dept_name	full_name	dept_name	full_name	dept_name
Georgi Facello	Customer Service	Kazuhiro Cappelletti	Development	Yinghua Dredge	Finance and Accounting	Premal Baek	Human Resources
Bezalel Simmel	Development	Bader Swan	Marketing	Marla Brendel	Production	Chenyi Syang	Quality Management
Parto Bamford	Finance and Accounting	Uri Lenart	Research	Kazuhiro Encarnacion	Sales	Miyeon Macedo	
Chirstian Koblick	Human Resources	Yinghua Dredge		Shrikant Mahumud		Pragnesh Iisaka	
Kyoichi Maliniak	Marketing	Sanjiv Zschoche		Shaw Wendorf			
Anneke Preusig	Production	Breanna Billingsley					
Tzvetan Zielinski	Quality Management	Tse Herber					
Saniya Kalloufi	Research	Charlene Brattka					
Sumant Peac	Sales	Xinglin Eugenio					
Duangkaew Piveteau		Jungsoo Syrzycki					

Query 3		Query 4		Query 5		Query 6	
full_name	salary	full_name	salary	full_name	salary	dept_name	
Bezalel Simmel	65909	Josyula Hofmeyr	102425	Kwee Schusler	102674	Development	
Bezalel Simmel	67534	Yuping Alpin	103672	Kwee Schusler	103672	Finance and Accounting	
Bezalel Simmel	69366	Shirish Wegerle	100005	Charlene Brattka	101829	Marketing	
Bezalel Simmel	71963	Yagil DasSarma	101630	Charlene Brattka	105533	Sales	
Bezalel Simmel	72527	Yinlin Alpin	106204	Charlene Brattka	108345		
Anneke Preusig	40000	Janche Zhang	111623	Charlene Brattka			
Anneke Preusig	42085	Ottavia Giaratana					
Anneke Preusig	42629	Zita Minakawa					
Anneke Preusig	45844	Sukumar Wegerle					
Anneke Preusig	47518	Munenori Markovitch					

Query 7		Query 8		Query 9		Query 10	
full_name	salary	full_name	salary	full_name	salary	dept_name	
Bezalel Simmel	65909	Josyula Hofmeyr	102425	Kwee Schusler	102674	Development	
Bezalel Simmel	67534	Yuping Alpin	103672	Kwee Schusler	103672	Finance and Accounting	
Bezalel Simmel	69366	Shirish Wegerle	100005	Charlene Brattka	101829	Marketing	
Bezalel Simmel	71963	Yagil DasSarma	101630	Charlene Brattka	105533	Sales	
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Anneke Preusig	42629	Zita Minakawa					
Anneke Preusig	45844	Sukumar Wegerle					
Anneke Preusig	47518	Munenori Markovitch					

Query 11	
Empty set (0.00 sec)	

Figure 1: Result