

Information System - Lab work 5

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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. What is the average salary of each employee?

```
SELECT emp_no, AVG(salary)
FROM salaries
GROUP BY emp_no;
```

2. How much was each employee paid in total?

```
SELECT emp_no, SUM(salary)
FROM salaries
GROUP BY emp_no;
```

3. Minimum, maximum and total salaries of each departments?

```
SELECT dept_no, MAX(salary), MIN(salary), SUM(salary)
FROM dept_emp JOIN salaries
ON dept_emp.emp_no = salaries.emp_no
GROUP BY dept_no;
```

4. Which departments have paid more than 20 billion dollars for their employees?

```
SELECT dept_no , SUM(salary)
FROM dept_emp JOIN salaries
ON dept_emp.emp_no = salaries.emp_no
GROUP BY dept_no
HAVING SUM(salary) > 20000000000;
```

5. Total salaries of male employees in each departments?

```
SELECT dept_no , SUM(salary)
FROM dept_emp
JOIN employees
ON dept_emp.emp_no = employees.emp_no
JOIN salaries
ON dept_emp.emp_no = salaries.emp_no
WHERE gender = "M"
GROUP BY dept_no;
```

6. Total salaries of department managers for each department, from highest to lowest?

```
SELECT dept_no , sum(salary)
FROM dept_manager JOIN salaries
ON salaries.emp_no = dept_manager.emp_no
GROUP BY dept_no
ORDER BY SUM(salary) DESC;
```

Results

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

emp_no	AVG(salary)	emp_no	SUM(salary)	dept_no	MAX(salary)	MIN(salary)	SUM(salary)
10002	68854.5000	10002	413127	d001	145128	39127	13725425266
10003	43030.2857	10003	301212	d002	142395	38812	11650834677
10004	56512.2500	10004	904196	d003	141953	38735	9363811425
10005	87275.7692	10005	1134585	d004	138273	38623	41554438942
10006	50514.9167	10006	606179	d005	144434	38849	48179456393
10007	70826.7143	10007	991574	d006	132103	38786	10865203635
10008	49307.6667	10008	147923	d007	158220	39169	40030089342
10009	78284.5556	10009	1409122	d008	130211	38851	11969730427
10010	76723.0000	10010	460338	d009	144866	38836	13143639841
10011	49782.0000	10011	348474				
Query 1		Query 2		Query 3			
dept_no	SUM(salary)	dept_no	SUM(salary)	dept_no	sum(salary)		
d004	41554438942	d001	8352455367	d006	4162118		
d005	48179456393	d002	6940675318	d004	3374004		
d007	40030089342	d003	5619533959	d009	3187661		
Query 4		d004	24873889749	d001	3093009		
		d005	28961357095	d007	2915118		
		d006	6472073211	d008	2558661		
		d007	24051537190	d002	2549372		
		d008	7174578852	d003	2098298		
		d009	7865587983	d005	2028376		
		Query 5		Query 6			

Figure 1: Results