SQL PROJECT 1

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1. List of employees by department

write a query to list all employees along with their respective department name include employee number ,first name,last name,department number

query

```
select e.emp_no,e.first_name,e.last_name,de.emp_no,d.dept_name,de.dept_no from employees as e
JOIN dept_emp as de
ON e.emp_no = de.emp_no
JOIN departments as d
ON de.dept_no = d.dept_no
```

output

emp_no	first_name	last_name	dept_name	dept_no
10011	Mary	Sluis	Customer Service	d009
10038	Huan	Lortz	Customer Service	d009
10049	Basil	Tramer	Customer Service	d009
10060	Breannda	Billingsley	Customer Service	d009
10088	Jungsoon	Syrzycki	Customer Service	d009
10098	Sreekrishna	Servieres	Customer Service	d009
10112	Yuichiro	Swick	Customer Service	d009
10115	Chikara	Rissland	Customer Service	d009

2. Current and Past Salaries of an employee

write a query to retrieve all the salary records of a given employee (by employee number) include employee number,salary,from date and to date and find the highest salary

query

```
select * from salaries
where emp_no = '10044' order by salary desc
limit 1
```

output

emp_no	salary	from_date	to_date
10044	58345	2002-05-19	9999-01-01
NULL	NULL	NULL	NULL

3. Employee with specific titles

write a query to find all employee who have held a specific title (e-g-> Engineer) include employee number ,first name,last name,and title

query

```sql
select t.emp_no,t.title,em.first_name,em.last_name from titles as t

join employees as em
on em.emp_no = t.emp_no
where title = 'Engineer'
```

output

emp_no	title	first_name	last_name
10004	Engineer	Chirstian	Koblick
10009	Engineer	Sumant	Peac
10010	Engineer	Duangkaew	Piveteau
10012	Engineer	Patricio	Bridgland
10014	Engineer	Berni	Genin
10018	Engineer	Kazuhide	Peha
10020	Engineer	Mayuko	Warwick
10022	Engineer	Shahaf	Famili
10023	Engineer	Bojan	Montemayor

4. Departments with their managers

write a query to list all departments along with their current managers include department number,department name,manager's employee number,firstname,last name

query

```
select d.dept_no,d.dept_name,e.emp_no,e.first_name,e.last_name from dept_manager as dm
join departments as d
on dm.dept_no = d.dept_no
join employees as e
on e.emp_no = dm.emp_no
```

output

dept_no	dept_name	emp_no	first_name	last_name
d009	Customer Service	111692	Tonny	Butterworth
d009	Customer Service	111784	Marjo	Giarratana
d009	Customer Service	111877	Xiaobin	Spinelli
d009	Customer Service	111939	Yuchang	Weedman
d005	Development	110511	DeForest	Hagimont
d005	Development	110567	Leon	DasSarma
d002	Finance	110085	Ebru	Alpin
d002	Finance	110114	Isamu	Legleitner
d003	Human Resources	110183	Shirish	Ossenbruggen

5. Employee count by department

write a query to count the number of employees in each department include department number,department name, and employee count

query

```sql
select d.dept_no,dept_name,count(de.emp_no) as emp_count from departments as d
join dept_emp as de
on d.dept_no = de.dept_no
group by dept_no,dept_name
```

output

dept_no	dept_name	emp_count
d009	Customer Service	23580
d005	Development	85707
d002	Finance	17346
d003	Human Resources	17786
d001	Marketing	20211
d004	Production	73485
d006	Quality Management	20117
d008	Research	21126
d007	Sales	52245

6. Employees Birthdates in a given Year

write a query to find all employees born in specific year (eg --> 1953) include employee number,first name,last name and birth date

query

```sql
select emp_no,first_name,last_name,birth_date from employees
where year(birth_date) = 1953;
```

Output

	emp_no	first_name	last_name	birth_date
▶	10001	Georgi	Facello	1953-09-02
	10006	Anneke	Preusig	1953-04-20
	10011	Mary	Sluis	1953-11-07
	10019	Lillian	Haddadi	1953-01-23
	10023	Bojan	Montemayor	1953-09-29
	10026	Yongqiao	Berztiss	1953-04-03
	10035	Alain	Chappelet	1953-02-08
	10051	Hidefumi	Caine	1953-07-28
	10059	Alejandro	McAlpine	1953-09-19

7. Employees hired in the last 50 years

write a query to find all employees hired in the last 50 years include employee number,first name,last name and hired date

query

```
select emp_no,first_name,last_name,hire_date from employees
where hire_date >= date_sub(curdate(),interval 50 year)
```

Output

emp_no	first_name	last_name	hire_date
10001	Georgi	Facello	1986-06-26
10002	Bezalel	Simmel	1985-11-21
10003	Parto	Bamford	1986-08-28
10004	Chirstian	Koblick	1986-12-01
10005	Kyoichi	Maliniak	1989-09-12
10006	Anneke	Preusig	1989-06-02
10007	Tzvetan	Zielinski	1989-02-10
10008	Saniya	Kalloufi	1994-09-15
10009	Sumant	Peac	1985-02-18

8. Average salary by department

write a query to calculate average salary for each department include department number department name,and average salary

query

```sql
select d.dept_no,d.dept_name,avg(salary) from departments as d
join dept_emp as de
on de.dept_no = d.dept_no
join salaries as s on de.emp_no = s.emp_no
group by d.dept_no,d.dept_name
```

output

dept_no	dept_name	avg(salary)
d001	Marketing	71913.2000
d002	Finance	70489.3649
d003	Human Resources	55574.8794
d004	Production	59605.4825
d005	Development	59478.9012
d006	Quality Management	57251.2719
d007	Sales	80667.6058
d008	Research	59665.1817
d009	Customer Service	58770.3665

9. Gender distribution in each department

write a query to find the gender distribution in each department include department number,department name and count of genders

query

```sql
SELECT d.dept_no,d.dept_name,
SUM(CASE WHEN e.gender = 'M' THEN 1 ELSE 0 END) AS male_count,
SUM(CASE WHEN e.gender = 'F' THEN 1 ELSE 0 END) AS female_count
FROM departments AS d
JOIN dept_emp AS de ON de.dept_no = d.dept_no
JOIN employees AS e ON de.emp_no = e.emp_no
GROUP BY d.dept_no, d.dept_name;
```

Output

dept_no	dept_name	male_count	female_count
d009	Customer Service	14132	9448
d005	Development	51449	34258
d002	Finance	10331	7015
d003	Human Resources	10711	7075
d001	Marketing	12174	8037
d004	Production	43936	29549
d006	Quality Management	12039	8078
d008	Research	12687	8439
d007	Sales	31391	20854

10. Longest Serving Employee

Write a query to find the employees who have served the longest in the company include employee number,first name,last name and number or years served

query

```
select emp_no,first_name,last_name,
timestampdiff(year,hire_date,curdate()) as years_served

from employees
order by years_served desc
```

Output

dept_no	dept_name	male_count	female_count
d009	Customer Service	14132	9448
d005	Development	51449	34258
d002	Finance	10331	7015
d003	Human Resources	10711	7075
d001	Marketing	12174	8037
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```
select emp_no,first_name,last_name,
timestampdiff(year,hire_date,curdate()) as years_served

from employees
order by years_served desc
```

Output

▶	13680	Denny	Speer	40
	11048	Jaques	Demke	40
	13001	Rosita	Wiegley	40
	11809	Anneli	Bennis	40
	10195	Annemarie	Redmiles	40
	11322	Nathalie	Pocchiola	40
	11402	Freyja	Brizzi	40
	13272	Arun	Jiang	40