1. List Of Employees By Department

Question: Write a query to list all employees along with their respective department names. Include employee number, first name, last name, department number, and department name.

Query:

```
select e.emp_no, e.first_name, e.last_name, de.dept_no, d.dept_name from employees 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_no	dept_name
10011	Mary	Sluis	d009	Customer Service
10038	Huan	Lortz	d009	Customer Service
10049	Basil	Tramer	d009	Customer Service
10060	Breannda	Billingsley	d009	Customer Service
10088	Jungsoon	Syrzycki	d009	Customer Service
10098	Sreekrishna	Servieres	d009	Customer Service
10112	Yuichiro	Swick	d009	Customer Service

2. Current And Past Salaries Of An Employee

Question: 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	first_name	last_name	title
10004	Chirstian	Koblick	Engineer
10009	Sumant	Peac	Engineer
10010	Duangkaew	Piveteau	Engineer
10012	Patricio	Bridgland	Engineer
10014	Berni	Genin	Engineer
10018	Kazuhide	Peha	Engineer

3. Employees With Specific Titles

Question: Write a query to find all employees who have held a specific title (e.g.,'Engineer'). Include employee -- number, first name, last name, and title.

Query:

```
select e.emp_no, first_name, last_name, title from employees as e
join titles as t
on e.emp_no = t.emp_no
Where t.title = 'Engineer';
```

Output:

emp_no	first_name	last_name	title
10004	Chirstian	Koblick	Engineer
10009	Sumant	Peac	Engineer
10010	Duangkaew	Piveteau	Engineer
10012	Patricio	Bridgland	Engineer
10014	Berni	Genin	Engineer
10018	Kazuhide	Peha	Engineer

4. Departments With Their Managers

Question: Write a query to list all departments along with their current managers. Include department number, department name, manager's employee number, first name, and last name.

Query:

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

Output:

emp_no	dept_no	first_name	last_name	dept_name
111692	d009	Tonny	Butterworth	Customer Service
111784	d009	Marjo	Giarratana	Customer Service
111877	d009	Xiaobin	Spinelli	Customer Service
111939	d009	Yuchang	Weedman	Customer Service
110511	d005	DeForest	Hagimont	Development
110567	d005	Leon	DasSarma	Development

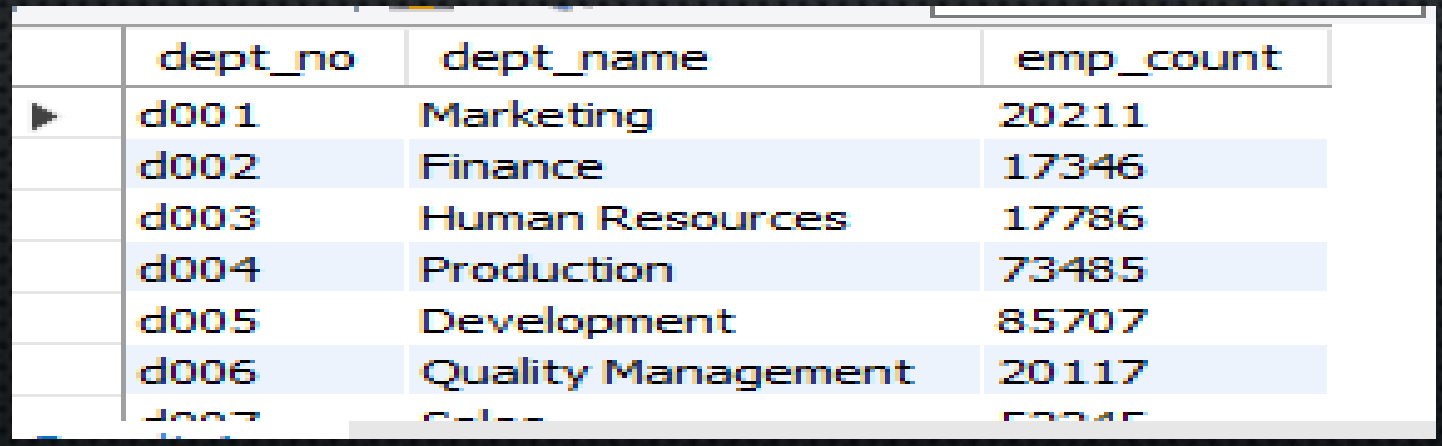
5. Employee Count By Department

Question: Write a query to count the number of employees in each department. Include department number, department name, and employee count.

Query:

```
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
d001	Marketing	20211
d002	Finance	17346
d003	Human Resources	17786
d004	Production	73485
d005	Development	85707
d006	Quality Management	20117

6 Employees' Birthdates In A Given Year

Question: Write a query to find all employees born in a specific year (e.g., 1953). Include employee number, first name, last name, and birth date.

Query:

```
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

7. Employees Hired in the Last 5 Years

Question: Write a query to find all employees hired in the last 50 years.

Include employee number, first name, last name, and hire 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

8. Average Salary By Department

Question: Write a query to calculate the average salary for each department. Include department number, department name, and average salary.

Query:

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

Output:

dept_no	dept_name	avg_salaries
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

9.Gender Distribution in Each Department

QUESTION: WRITE A QUERY TO FIND THE GENDER DISTRIBUTION (NUMBER OF MALES AND FEMALES) IN EACH DEPARTMENT. INCLUDE-- DEPARTMENT NUMBER, DEPARTMENT NAME, COUNT OF MALES, AND COUNT OF FEMALES.

Query:

```
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
d001	Marketing	12174	8037
d002	Finance	10331	7015
d003	Human Resources	10711	7075
d004	Production	43936	29549
d005	Development	51449	34258
d006	Quality Management	12039	8078

10. Longest Serving Employees

QUESTION: WRITE A QUERY TO FIND THE EMPLOYEES WHO HAVE SERVED THE LONGEST IN THE COMPANY. INCLUDE EMPLOYEE NUMBER, FIRST NAME, LAST NAME, AND NUMBER OF YEARS SERVED.

Query:

```
select emp_no, first_name, last_name,
timestampdiff(year, hire_date, curdate()) as year_served
from employees
order by year_served DESC
LIMIT 10;
```

Output:

	emp_no	first_name	last_name	year_served
▶	10080	Premal	Baek	39
	10002	Bezalel	Simmel	39
	10076	Erez	Ritzmann	39
	10070	Reuven	Garigliano	39
	10061	Tse	Herber	39
	10029	Otmar	Herbst	39