SQL PROJECT 1

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Query : 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.

```sql
SELECT
    e.emp_no, e.first_name, e.last_name, d.dept_no, d.dept_name
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;
```

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
10115	Chikara	Rissland	d009	Customer Service
10126	Kayoko	Valtorta	d009	Customer Service
10128	Babette	Lamba	d009	Customer Service
10137	Maren	Hutton	d009	Customer Service

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.

```sql
SELECT
    emp_no, salary AS salary_record,from_date,
    CURDATE() AS to_date
FROM
    salaries
WHERE
    emp_no = '10044'
ORDER BY salary DESC
LIMIT 1;
```

	emp_no	salary_record	from_date	to_date
▶	10044	58345	2002-05-19	2025-03-06

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.

```sql
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';
```

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
10020	Mayuko	Warwick	Engineer
10022	Shahaf	Famili	Engineer
10023	Bojan	Montemayor	Engineer
10026	Yongqiao	Berztiss	Engineer
10027	Divier	Reistad	Engineer
10028	Domenick	Tempesti	Engineer
10029	Otmar	Herbst	Engineer

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.

```sql
SELECT
    d.dept_no, dm.emp_no, d.dept_name, 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;
```

dept_no	emp_no	dept_name	first_name	last_name
d009	111692	Customer Service	Tonny	Butterworth
d009	111784	Customer Service	Marjo	Giarratana
d009	111877	Customer Service	Xiaobin	Spinelli
d009	111939	Customer Service	Yuchang	Weedman
d005	110511	Development	DeForest	Hagimont
d005	110567	Development	Leon	DasSarma
d002	110085	Finance	Ebru	Alpin
d002	110114	Finance	Isamu	Legleitner
d003	110183	Human Resources	Shirish	Ossenbruggen
d003	110228	Human Resources	Karsten	Sigstam
d001	110022	Marketing	Margareta	Markovitch
d001	110039	Marketing	Vishwani	Minakawa

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

```sql
SELECT
    d.dept_no, d.dept_name, COUNT(de.emp_no) AS employee_count
FROM
    dept_emp AS de
        JOIN
    departments AS d ON de.dept_no = d.dept_no
GROUP BY d.dept_no;
```

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

Write a query to find all employees born in a specific year (e.g., 1965). Include employee number, first name, last name, and birth date.

```sql
SELECT
    emp_no, first_name, last_name, birth_date
FROM
    employees
WHERE
    YEAR(birth_date) = '1965'
```

emp_no	first_name	last_name	birth_date
10095	Hilari	Morton	1965-01-03
10122	Ohad	Esposito	1965-01-19
10291	Dipayan	Seghrouchni	1965-01-23
10410	Takahito	Gecsei	1965-01-19
10476	Kokou	Iisaka	1965-01-01
10480	Make	Baba	1965-01-25
10663	Teunis	Noriega	1965-01-09
10762	Lech	Himler	1965-01-19
10933	Juyoung	Seghrouchni	1965-01-24
11015	Jeanna	Riesenhuber	1965-01-24
11126	Hideo	Daescu	1965-01-08

Write a query to find all employees hired in the last 5 years. Include employee number, first name, last name, and hire date.

```sql
SELECT
    emp_no, first_name, last_name, hire_date FROM employees
WHERE YEAR(hire_date) BETWEEN
        (SELECT MAX(YEAR(hire_date)) - 5 FROM employees) AND
        (SELECT MAX(YEAR(hire_date)) FROM employees)
ORDER BY hire_date;
```

emp_no	first_name	last_name	hire_date
477049	Kazuhiro	Veevers	1995-01-01
477188	Dipankar	Markovitch	1995-01-01
482766	Gila	Lichtman	1995-01-01
482827	Yuguang	Porotnikoff	1995-01-01
491780	Mabhin	Takkinen	1995-01-01
497757	Hein	Waeselynck	1995-01-01
259226	Anoosh	Falby	1995-01-01
268118	Mohua	Birta	1995-01-01
270840	Zhiguo	Turnbull	1995-01-01
292307	Youssef	Grabner	1995-01-01
292386	Yuqun	Huttel	1995-01-01
295937	Kiyomitsu	Shackel	1995-01-01
19785	Tiina	Bolsens	1995-01-01

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

```sql
SELECT
    de.dept_no, d.dept_name, AVG(s.salary) AS average_salary
FROM
    salaries AS s
        JOIN
    dept_emp AS de ON s.emp_no = de.emp_no
        JOIN
    departments AS d ON d.dept_no = de.dept_no
GROUP BY de.dept_no , d.dept_name;
```

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

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.

```sql
SELECT
    de.dept_no,
    d.dept_name,
    COUNT(CASE WHEN gender = 'M' THEN 1 END) AS Male_Members,
    COUNT(CASE WHEN gender = 'F' THEN 1 END) AS Female_Members
    FROM employees as e
    JOIN dept_emp AS de ON e.emp_no = de.emp_no
    JOIN departments AS d ON d.dept_no = de.dept_no
    GROUP BY dept_name
```

dept_no	dept_name	Male_Members	Female_Members
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

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.

```sql
SELECT emp_no,
       first_name,
       last_name,
       TIMESTAMPDIFF(YEAR,hire_date, CURDATE()) AS longest_service_years
       FROM employees
       ORDER BY longest_service_years DESC
       limit 10
```

emp_no	first_name	last_name	longest_service_years
10137	Maren	Hutton	40
10253	Zsolt	Salinas	40
10583	Prasadram	Stille	40
10195	Annemarie	Redmiles	40
10905	Jianhui	Aloia	40
10535	Shalesh	Stroustrup	40
10550	Manton	Leuchs	40
10571	Fun	Varman	40
10009	Sumant	Peac	40
10048	Florian	Syrotiuk	40