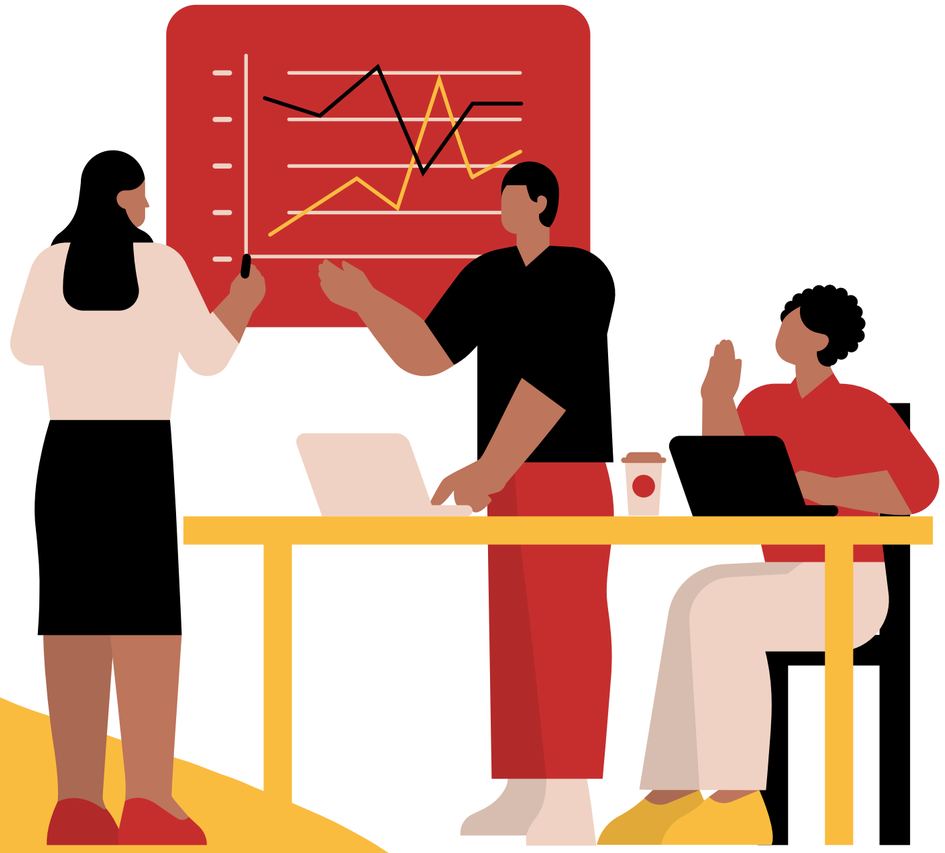

HR AND PAYROLL DATA ANALYSIS PROJECT - SQL

1) SALARY AND HIRING ANALYSIS

A company is concerned that some departments are taking too long to hire employees. They suspect this might affect salary allocation. They want a report showing average salaries and bonus percentages for departments that generally hire faster than others. Departments hiring slower than 40 days should be excluded. Can you help identify such departments and provide the required salary insights?

```
SELECT depart_ment, AVG(salary) AS average_salary,
AVG(bonus_pct) AS average_bonus_pct
FROM hr_payroll
WHERE time2hire_dayz < 40 GROUP BY depart_ment;
```

	depart_ment	average_salary	average_bonus_pct
1	Customer_Support	72555.69921875	12.375
2	Eng1neering	78132.2837053571	9.17142857142857
3	Finance	77177.1985294118	9.17647058823529
4	HR	72663.5517578125	10.4166666666667
5	I.T.	76622.7371651786	9.85714285714286
6	Market1ng	70227.335546875	9.26666666666667
7	Operati0ns	75818.2272135417	7.91666666666667
8	S@les	80587.2199707031	9.79166666666667

2) JOB TITLE CODE ANALYSIS

The HR department wants to create a system where job titles can be represented by a unique code derived from the job titles themselves. They have requested a report showing a shortened version (first three letters) of each job title. Additionally, only employees earning above their department's average salary should be included. How can you prepare this list for them?

```
SELECT empl0yee_id, fir_t_name, l_st_name AS Full_name,
SUBSTRING(job_t1tle,1,3) AS Job_title_code
FROM hr_payroll
GROUP BY empl0yee_id, fir_t_name, l_st_name, job_t1tle, salary,
depart_ment HAVING salary > (SELECT AVG(salary) FROM hr_payroll
WHERE depart_ment = hr_payroll.depart_ment);
```

	empl0yee_id	fir_t_name	Full_name	Job_title_code
1	2	Katherine	Bailey	S@l
2	3	Robert	Smith	HR_
3	4	Jonathan	Mccann	Ops
4	6	Richard	Jones	Fin
5	7	Kristen	Barry	Cus
6	14	Katelyn	Wood	S@l
7	21	Kyle	Haley	Cus
8	22	Jessica	Anderson	Mar
9	23	Rachel	Levy	S@l
10	24	Gabriella	Cox	Mar
11	26	Craig	Carter	HR_
12	29	Robin	Fields	Mar

3) LEAVE BALANCE ISSUE

Some employees's leave balances are missing, and the company wants to know how big the issue is in each department. Can you find out how many employees in each department have no recorded leave balance? Also, the HR team is curious about the roles of these employees. Prepare a summary for them.

```
SELECT depart_ment, COUNT(empl0yee_id) AS no_leave_balance_count,
STRING_AGG(job_t1tle, ', ') AS roles_with_no_leave_balance
FROM hr_payroll
WHERE leave_bal_days IS NULL OR leave_bal_days = 0
GROUP BY depart_ment;
```

	depart_ment	no_leave_balance_count	roles_with_no_leave_balance
1	Customer_Support	38	Fin.Analyst, Cust Support Rep, Ma
2	Eng1neering	33	S@les_Manag3r, S@les_Manag
3	Finance	27	S@les_Manag3r, Ops_Mng, Mar
4	HR	25	Ops_Mng, Cust Support Rep, I.T.
5	I.T.	40	S0ftware_Eng, Ops_Mng, Fin.Ana
6	Market1ng	25	I.T. Specialist, S@les_Manag3r, I
7	Operati0ns	37	Cust Support Rep, I.T. Specialist,
8	S@les	33	S0ftware_Eng, HR_Coord!, S@le

4) PERFORMANCE REVIEW AND SALARY UPDATE

Employees who haven't received a salary bump in the last two years might need attention. Similarly, they want to know how long it's been since each employee's last performance review. The goal is to identify employees potentially overdue for an appraisal. Can you prepare this list with the required details?

```
SELECT empl0yee_id, CONCAT(fir_t_name,' ' ,l_st_name) AS full_name,
DATEDIFF(YEAR, last_perf_review, GETDATE()) AS years_since_review,
DATEDIFF(YEAR, last_salary_bump, GETDATE()) AS years_since_salary_bump
FROM hr_payroll
WHERE DATEDIFF(YEAR, last_salary_bump, GETDATE()) >= 2;
```

	empl0ye...	full_name	years_since_r...	years_sin
1	1	Megan Johnson	1	3
2	2	Katherine Bailey	2	2
3	3	Robert Smith	1	2
4	4	Jonathan Mccann	2	3
5	5	William Fuentes	1	3
6	6	Richard Jones	1	2
7	7	Kristen Barry	2	2
8	8	Kevin Clark	2	2
9	9	Thomas Harris	1	2
10	10	Brandy Nunez	2	3
11	11	Rebecca Mays	2	2
12	12	William Martinez	1	2
13	13	Juan Smith	1	2
14	14	Katelyn Wood	1	3

5) IDENTIFYING TOP PERFORMERS

Management wants to reward the highest-paid employees in departments that contribute significantly to the payroll. For each department with a total payroll above $500,000, find the top 3 earners and include their details. How would you determine this?

```
WITH DepartmentPayroll AS
(SELECT depart_ment, SUM(salary) AS total_payroll FROM hr_payroll
GROUP BY depart_ment HAVING SUM(salary) > 500000),
TopEarners AS (SELECT empl0yee_id, CONCAT(fir_t_name,' ' ,l_st_name) AS full_name,
salary, depart_ment, ROW_NUMBER() OVER (PARTITION BY depart_ment ORDER BY salary DESC)
AS rank FROM hr_payroll)
SELECT t.empl0yee_id, t.full_name, t.salary, t.depart_ment FROM TopEarners t
JOIN DepartmentPayroll d ON t.depart_ment = d.depart_ment
WHERE t.rank <= 3;
```

	empl0...	full_name	salary	depart_ment
1	491	Anthony Patton	157968....	Customer_Su...
2	30	Tammy White	124429....	Customer_Su...
3	441	Tracy Moss	122164....	Customer_Su...
4	192	Nicholas Gonzalez	153342	Eng1neering
5	291	Regina Hall	120230....	Eng1neering
6	379	Eduardo Burton	118829	Eng1neering
7	250	Billy Heath	121327.5	Finance
8	448	Felicia Pierce	119728	Finance
9	342	Vanessa Lester	119710.5	Finance
10	374	Billy Kelly	122623....	HR
11	330	Erica Hubbard	119032....	HR
12	455	Monique Griffith	118762....	HR
13	252	Angela Cooper	122960....	I.T.
14	311	Alan Walker	119149	I.T.
15	308	Christopher Leonard	117645	I.T.
16	227	Randy Morris	120155	Market1ng