1. Employees all over the world. Can you tell me the top three cities that we have employees?

Expected result:

City employee count

San Francisco 6

Paris 5

Syndney 4

SELECT o.city, COUNT(employeeNumber) AS employee\_count

FROM employees e

LEFT JOIN offices o

ON e.officeCode = o.officeCode

GROUP BY o.city

ORDER BY employee\_count DESC

LIMIT 3

San Francisco, Paris, Sydney

2. For company products, each product has inventory and buy price, msrp. Assume that every product is sold on msrp price. Can you write a query to tell company executives: profit margin on each product lines

Profit margin= sum(profit if all sold) - sum(cost of each=buyPrice) / sum (buyPrice)

Product line = each product belongs to a product line. You need group by product line.

SELECT p.`productLine`,

SUM(o.`quantityOrdered` \* (p.`MSRP` - p.`buyPrice`)) / SUM(o.`quantityOrdered` \* p.`buyPrice`) AS profit\_margin

FROM products p

JOIN orderdetails o

ON p.`productCode` = o.`productCode`

GROUP BY p.`productLine`;

3. company wants to award the top 3 sales rep They look at who produces the most sales revenue.

1. can you write a query to help find the employees.

SELECT e.firstName, e.lastName, SUM(p.amount) AS revenue

FROM customers c

JOIN employees e

ON c.salesRepEmployeeNumber = e.employeeNumber

LEFT JOIN payments p

ON c.customerNumber = p.customerNumber

GROUP BY e.employeeNumber, e.firstName, e.lastName

ORDER BY revenue DESC

LIMIT 3

Gerard Hernandez 1112003.81

Leslie Jennings 989906.55

Pamela Castillo 750201.87

B. if we want to promote the employee to a manager, what do you think are the tables to be updated.

employees, customer (if sales rep to manager)

C. An employee is leaving the company, write a stored procedure to handle the case. 1). Make the current employee inactive, 2). Replaced with its manager employeenumber in order table.

1. Assume we have active/inactive column called status in employee table

CREATE PROCEDURE to\_inactive ( IN employee\_id INT)

BEGIN

UPDATE employees

SET

status = ‘inactive’ WHERE employeeNumber = employee\_id;

END

1. I am not able to see employeenumber in order table but only in employees table and customers table, below is how to replace with its manager employeenumber in customers table

CREATE PROCEDURE to\_inactive ( IN employee\_id INT)

BEGIN

UPDATE customers c JOIN employees e ON (c.salesRepEmployeeNumber = e.employeeNumber)

SET c.salesRepEmployeeNumber = e.reportsTo

WHERE c.salesRepEmployeeNumber = employee\_id

=======following challenge:

Employee

[employee\_id, employee\_name, gender, current\_salary, department\_id, start\_date, term\_date]

Employee\_salary

[employee\_id, salary, year, month]

1 20 2019 1

1 21 2019 2

1 20 2019 3

Department

[department\_id, department\_name]

4. Employee Salary Change Times

Ask to provide a table to show for each employee in a certain department how many times their Salary changes

WITH salary\_if\_changed AS (

SELECT employee\_id, SUM(CASE WHEN salary = next\_salary THEN 0 ELSE 1 END) AS change\_time

FROM (

SELECT \*, LEAD(salary) OVER(PARTITION BY employee\_id ORDER BY year, month) AS next\_salary

FROM Employee\_salary

) t1

GROUP BY employee\_id

SELECT e.employee\_name, d.department\_name

FROM salary\_if\_changed s

JOIN Employee e

ON s.employee\_id = e.employee\_id

JOIN Department d

ON e.department\_id = d.department\_id

5. Top 3 salary

Ask to provide a table to show for each department the top 3 salary with employee name

and employee has not left the company.

I assume this means top 3 salary employee who has not left the company.

SELECT department\_name, employee\_name

FROM (

SELECT d.department\_name, sub.\*,

DENSE\_RANK() OVER(PARTITION BY d.department\_id ORDER BY current\_salary DESC) AS rk

FROM (

SELECT employee\_name, current\_salary, department\_id

FROM Employee

WHERE term\_date IS NULL

) sub

JOIN Department d

ON sub.department\_id = d.department\_id

) t

WHERE rk <= 3