SQL Assignment

Sumit Thakur Barahi
Course: SQL Fundamentals

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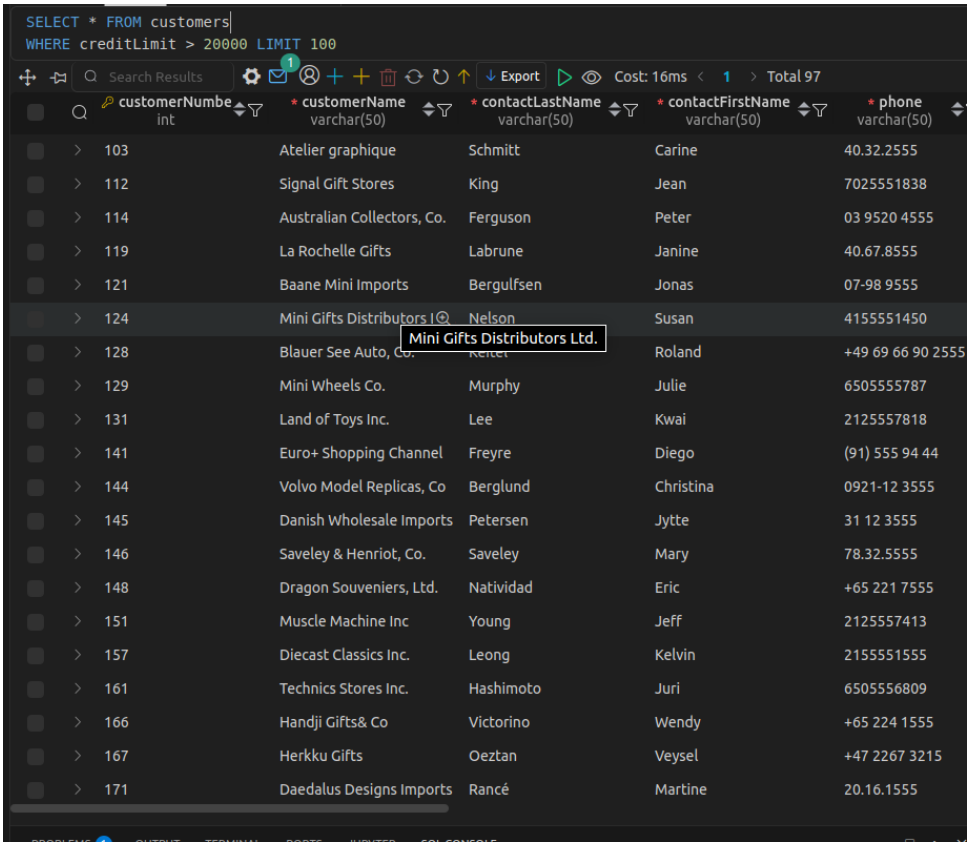
Contents

1 Task : Show all the customers whose creditLimit is greater than 20000

SQL Query

```
SELECT * FROM customers
WHERE creditLimit > 20000;
```

Output Screenshot

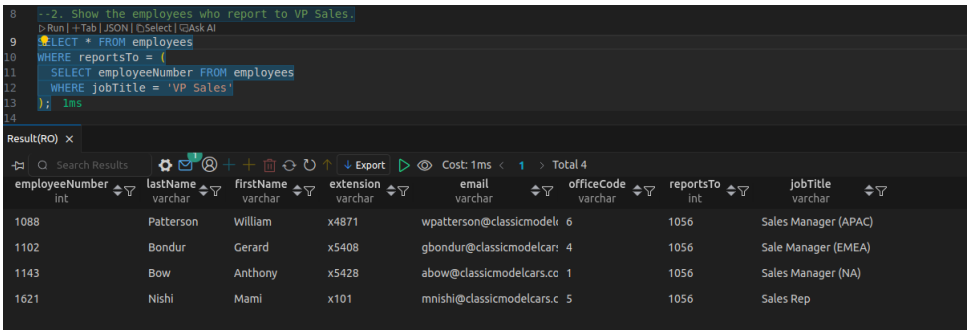


2 Task : Show the employees who report to VP Sales.

SQL Query

```
SELECT * FROM employees
WHERE reportsTo = (
  SELECT employeeNumber FROM employees
  WHERE jobTitle = 'VP Sales'
);
```

Output Screenshot

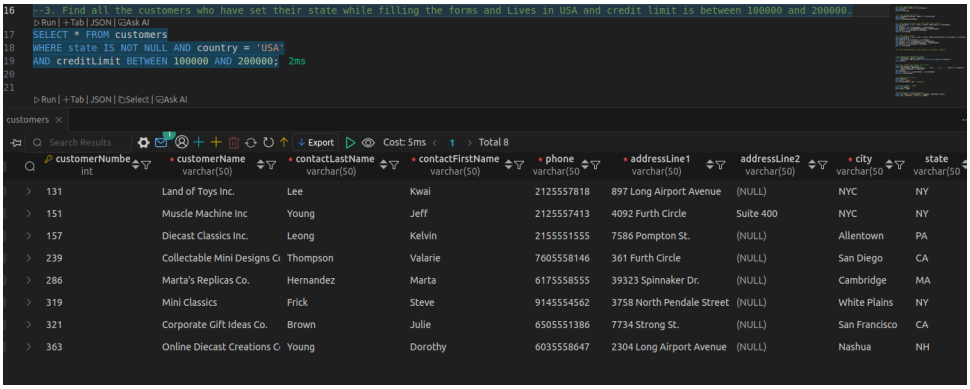


3 Task : Find all the customers who have set their state while filling the forms and Lives in USA and credit limit is between 100000 and 200000.

SQL Query

```
SELECT * FROM customers
WHERE state IS NOT NULL AND country = 'USA'
AND creditLimit BETWEEN 100000 AND 200000;
```

Output Screenshot

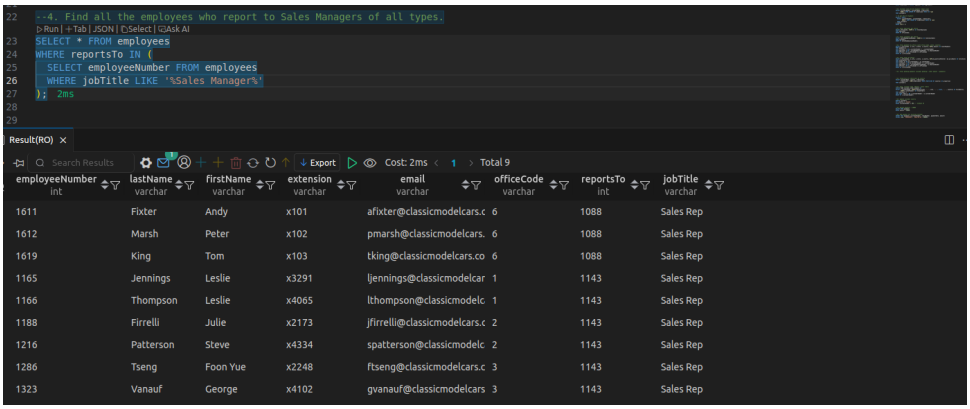


4 Task : Find all the employees who report to Sales Managers of all types

SQL Query

```
SELECT * FROM employees
WHERE reportsTo IN (
  SELECT employeeNumber FROM employees
  WHERE jobTitle LIKE '%Sales Manager%'
);
```

Output Screenshot



```
--4. Find all the employees who report to Sales Managers of all types.
SELECT * FROM employees
WHERE reportsTo IN (
  SELECT employeeNumber FROM employees
  WHERE jobTitle LIKE '%Sales Manager%'
); 2ms
```

Result(RO)

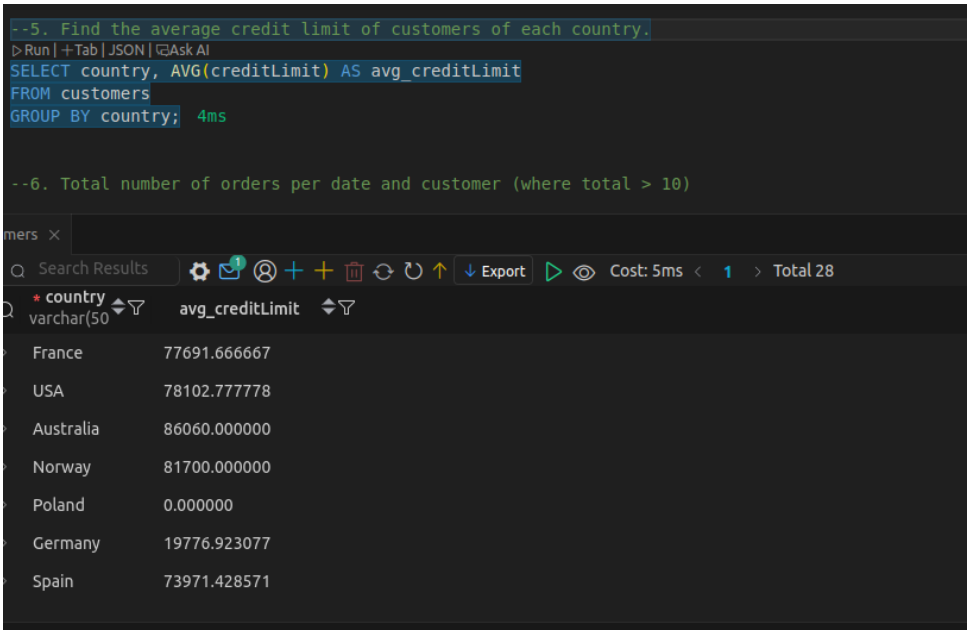
employeeNumber int	lastName varchar	firstName varchar	extension varchar	email varchar	officeCode varchar	reportsTo int	jobTitle varchar
1611	Fixter	Andy	x101	afixter@classicmodelcars.c	6	1088	Sales Rep
1612	Marsh	Peter	x102	pmarsh@classicmodelcars.	6	1088	Sales Rep
1619	King	Tom	x103	tking@classicmodelcars.co	6	1088	Sales Rep
1165	Jennings	Leslie	x3291	ljennings@classicmodelcar	1	1143	Sales Rep
1166	Thompson	Leslie	x4065	lthompson@classicmodelc	1	1143	Sales Rep
1188	Firrelli	Julie	x2173	jfirrelli@classicmodelcars.c	2	1143	Sales Rep
1216	Patterson	Steve	x4334	spatterson@classicmodelc	2	1143	Sales Rep
1286	Tseng	Foon Yue	x2248	ftseng@classicmodelcars.c	3	1143	Sales Rep
1323	Vanauf	George	x4102	gvanauf@classicmodelcars	3	1143	Sales Rep

5 Task : Find the average credit limit of customers of each country.

SQL Query

```sql
SELECT country, AVG(creditLimit) AS avg_creditLimit
FROM customers
GROUP BY country;
```

Output Screenshot



```
--5. Find the average credit limit of customers of each country.
SELECT country, AVG(creditLimit) AS avg_creditLimit
FROM customers
GROUP BY country;  4ms

--6. Total number of orders per date and customer (where total > 10)
```

Search Results — Export — Cost: 5ms — 1 — Total 28

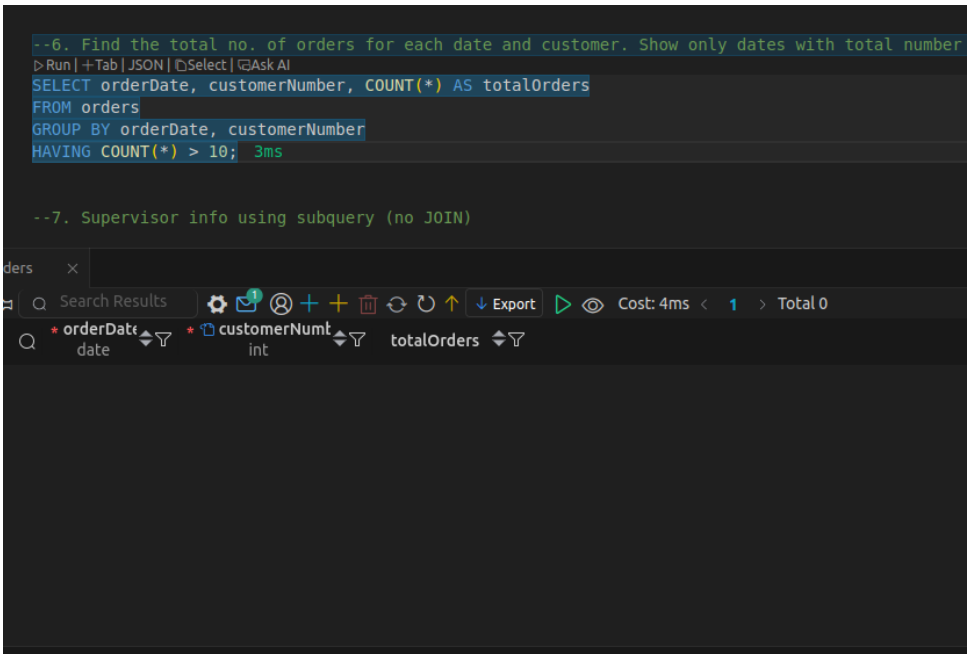
country varchar(50	avg_creditLimit
France	77691.666667
USA	78102.777778
Australia	86060.000000
Norway	81700.000000
Poland	0.000000
Germany	19776.923077
Spain	73971.428571

6 Task : Find the total no. of orders for each date and customer. Show only dates with total number of orders greater than 10 for date and customer.

SQL Query

```
SELECT orderDate, customerNumber, COUNT(*) AS totalOrders
FROM orders
GROUP BY orderDate, customerNumber
HAVING COUNT(*) > 10;
```

Output Screenshot



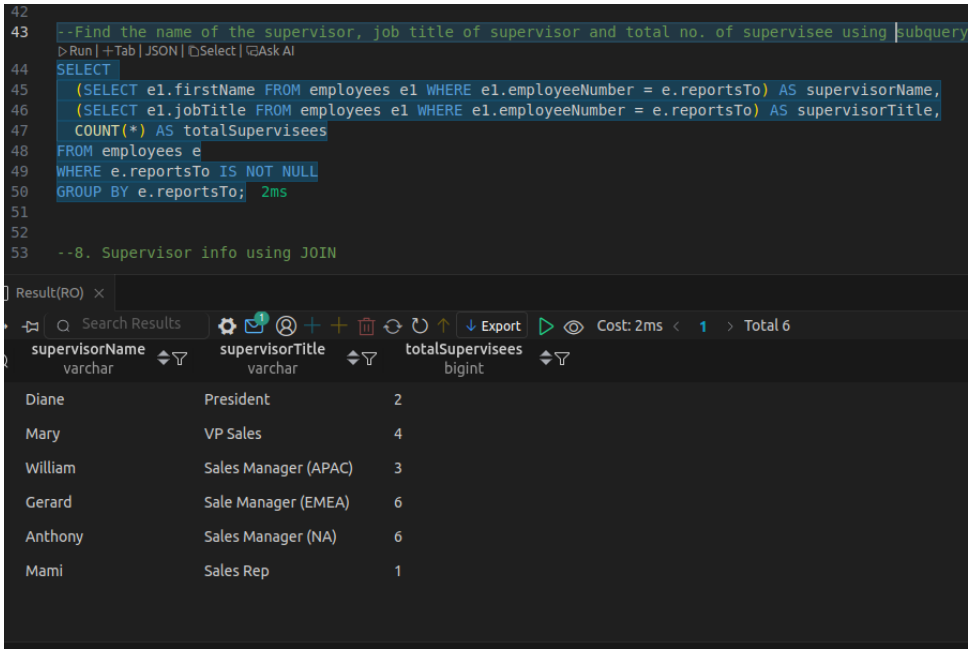
7 Task : Find the name of the supervisor, job title of supervisor and total no. of supervisee using subquery. (With out using Join operation)

SQL Query

```
SELECT
  (SELECT e1.firstName FROM employees e1 WHERE e1.employeeNumber
     = e.reportsTo) AS supervisorName,
  (SELECT e1.jobTitle FROM employees e1 WHERE e1.employeeNumber =
      e.reportsTo) AS supervisorTitle,
  COUNT(*) AS totalSupervisees
FROM employees e
WHERE e.reportsTo IS NOT NULL
```

```
GROUP BY e.reportsTo;
```

Output Screenshot

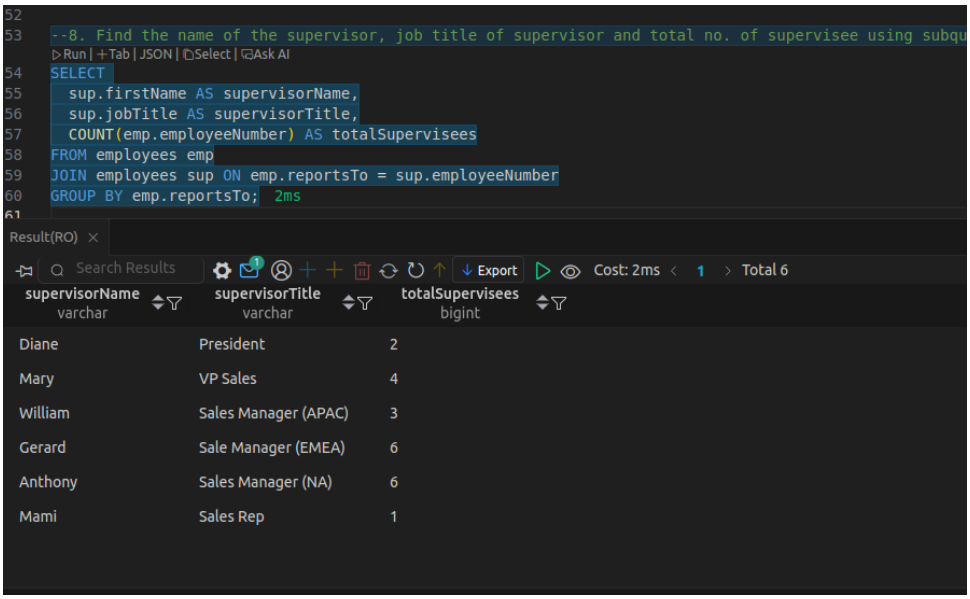


8 Task : Find the name of the supervisor, job title of supervisor and total no. of supervisee using subquery. (With using Join operation)

SQL Query

```
SELECT
  sup.firstName AS supervisorName,
  sup.jobTitle AS supervisorTitle,
  COUNT(emp.employeeNumber) AS totalSupervisees
FROM employees emp
JOIN employees sup ON emp.reportsTo = sup.employeeNumber
GROUP BY emp.reportsTo;
```

Output Screenshot

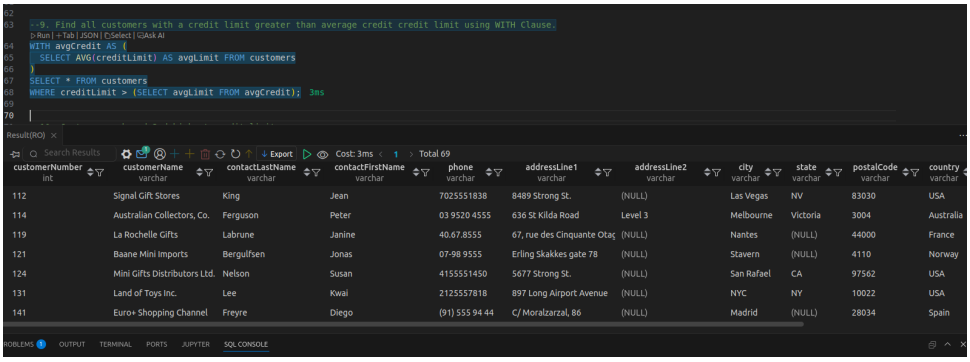


9 Task :Find all customers with a credit limit greater than average credit credit limit using WITH Clause.

SQL Query

```
WITH avgCredit AS (
  SELECT AVG(creditLimit) AS avgLimit FROM customers
)
SELECT * FROM customers
WHERE creditLimit > (SELECT avgLimit FROM avgCredit);
```

Output Screenshot

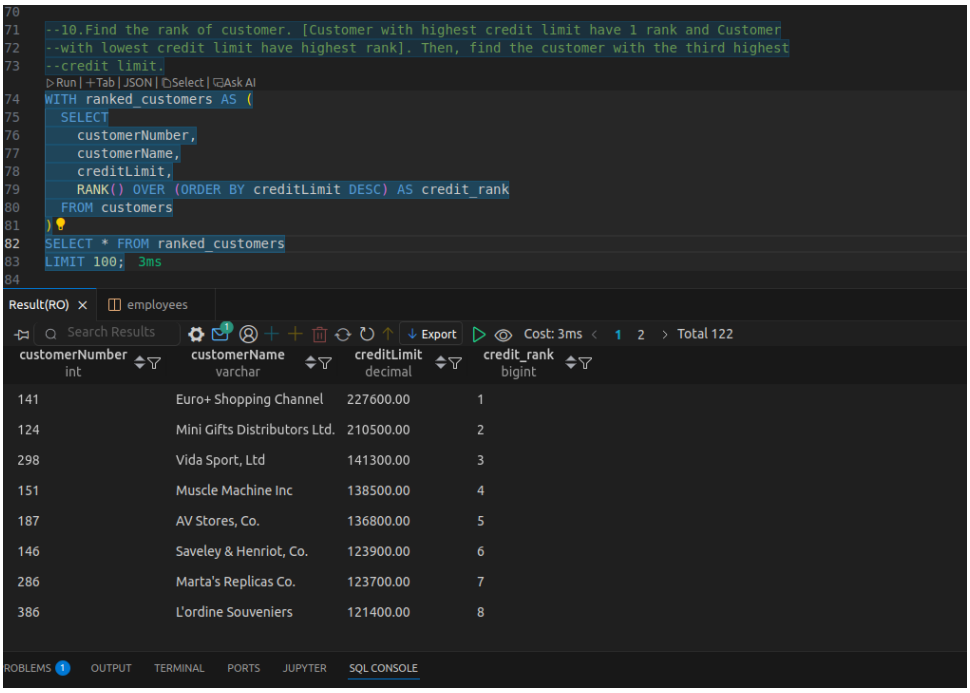


10 Task :Find the rank of customer. [Customer with highest credit limit have 1 rank and Customer with lowest credit limit have highest rank]. Then, find the customer with the third highest credit limit.

SQL Query

```
WITH ranked_customers AS (
  SELECT
    customerNumber,
    customerName,
    creditLimit,
    RANK() OVER (ORDER BY creditLimit DESC) AS credit_rank
  FROM customers
)
SELECT * FROM ranked_customers
LIMIT 100;
```

Output Screenshot

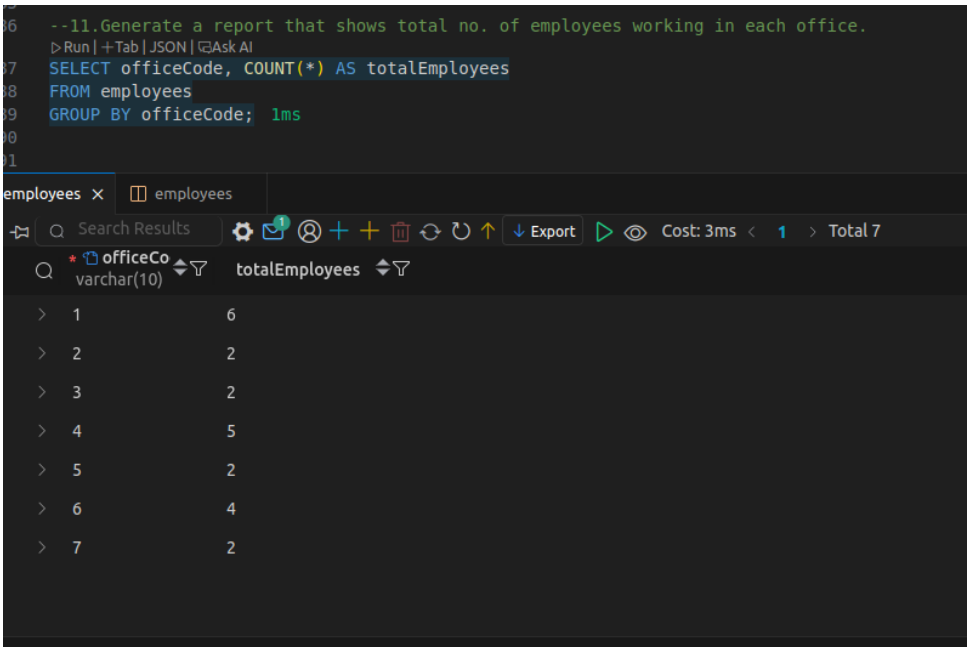


11 Task :Generate a report that shows total no. of employees working in each office.

SQL Query

```sql
SELECT officeCode, COUNT(*) AS totalEmployees
FROM employees
GROUP BY officeCode;
```

Output Screenshot

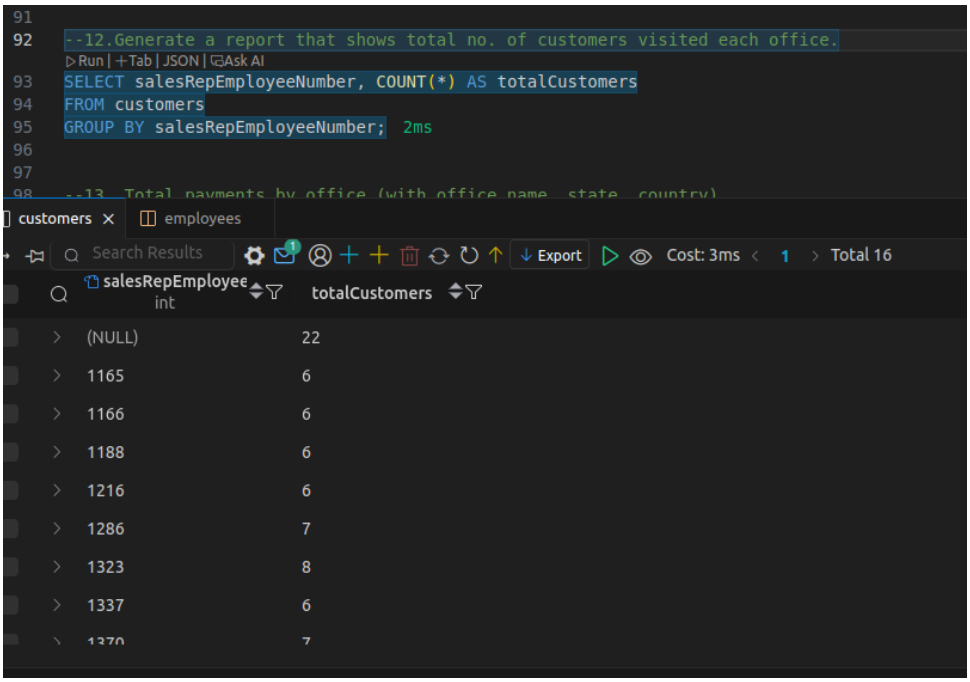


12 Task :Generate a report that shows total no. of customers visited each office.

SQL Query

```sql
SELECT salesRepEmployeeNumber, COUNT(*) AS totalCustomers
FROM customers
GROUP BY salesRepEmployeeNumber;
```

Output Screenshot

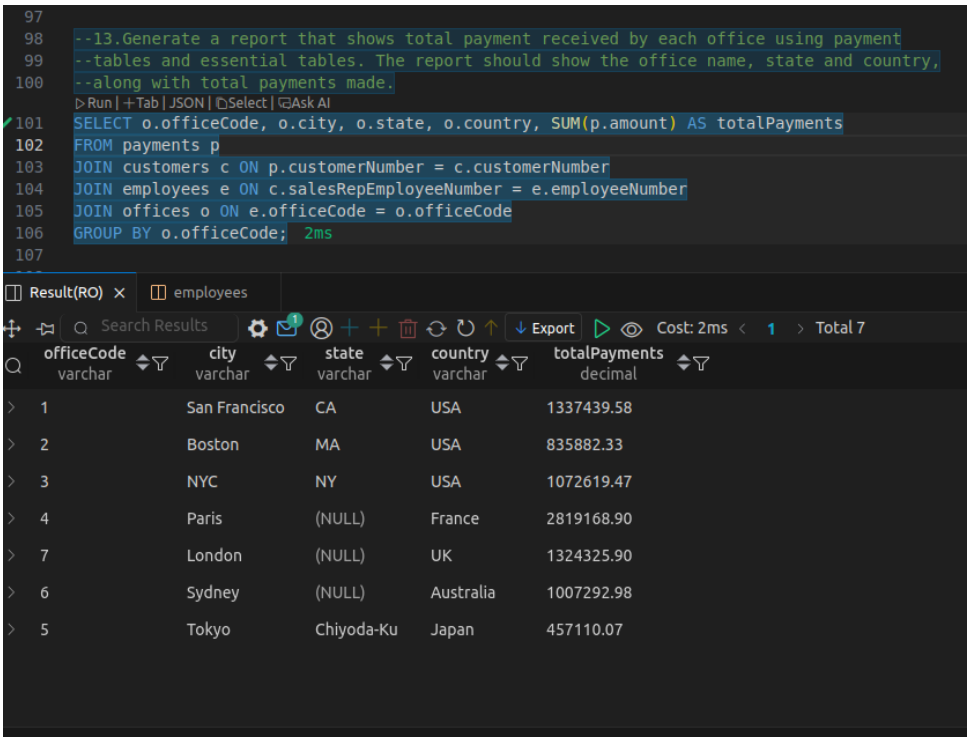


13 Task :Generate a report that shows total payment received by each office using payment tables and essential tables. The report should show the office name, state and country, along with total payments made.

SQL Query

```
SELECT o.officeCode, o.city, o.state, o.country, SUM(p.amount) AS
    totalPayments
FROM payments p
JOIN customers c ON p.customerNumber = c.customerNumber
JOIN employees e ON c.salesRepEmployeeNumber = e.employeeNumber
JOIN offices o ON e.officeCode = o.officeCode
GROUP BY o.officeCode;
```

Output Screenshot

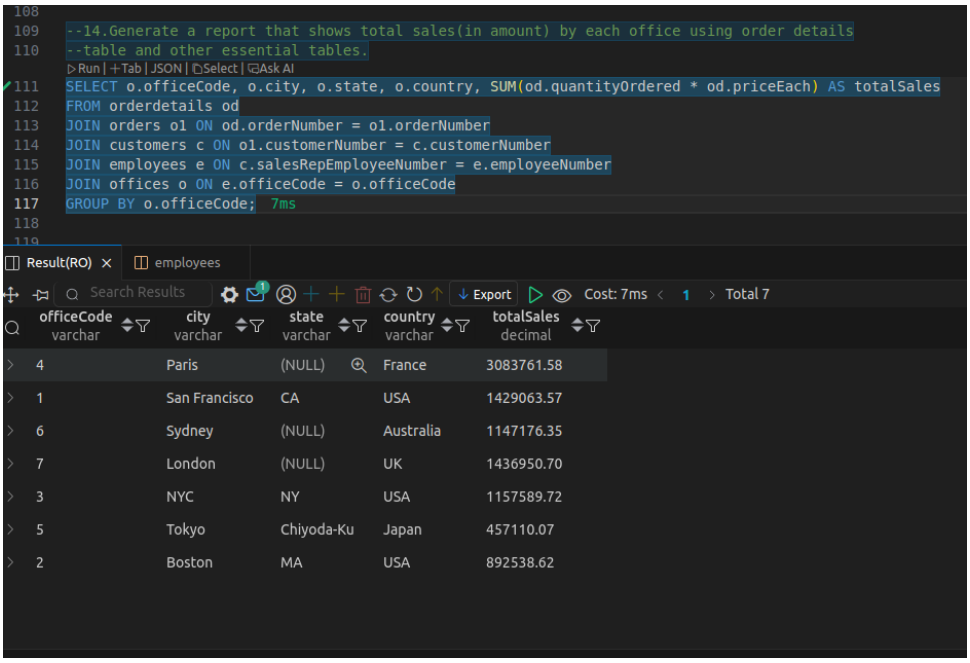


14 Task :Generate a report that shows total sales(in amount) by each office using order details table and other essential tables

SQL Query

```
SELECT o.officeCode, o.city, o.state, o.country, SUM(od.
   quantityOrdered * od.priceEach) AS totalSales
FROM orderdetails od
JOIN orders o1 ON od.orderNumber = o1.orderNumber
JOIN customers c ON o1.customerNumber = c.customerNumber
JOIN employees e ON c.salesRepEmployeeNumber = e.employeeNumber
JOIN offices o ON e.officeCode = o.officeCode
GROUP BY o.officeCode;
```

Output Screenshot



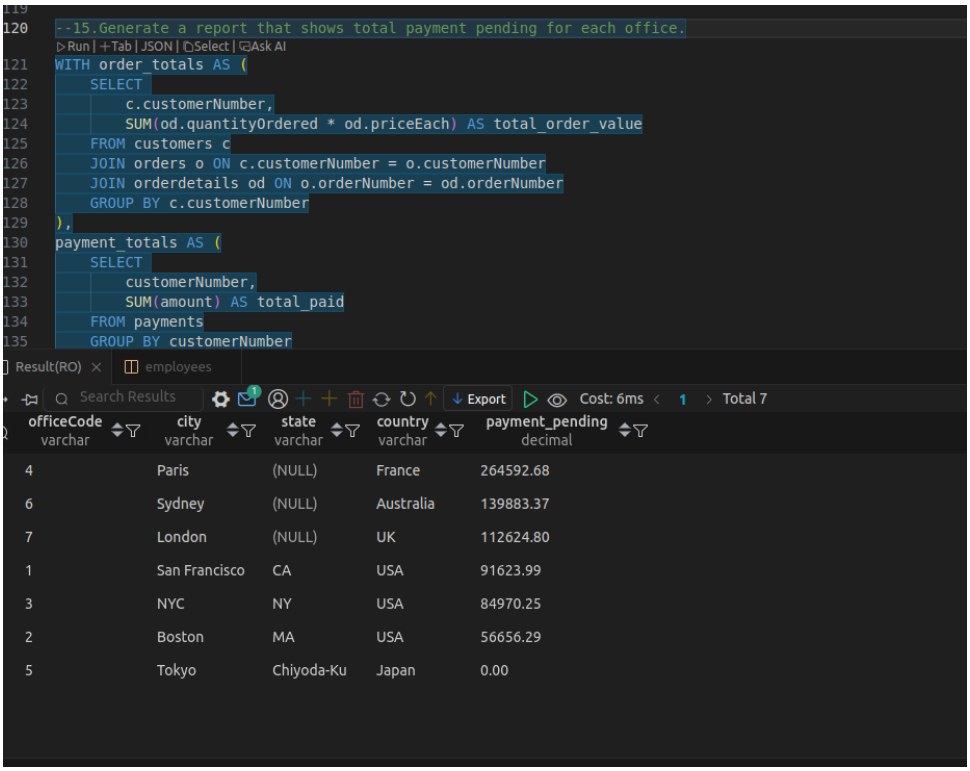
15 Task :Generate a report that shows total payment pending for each office.

SQL Query

```
WITH order_totals AS (
    SELECT
        c.customerNumber,
        SUM(od.quantityOrdered * od.priceEach) AS
           total_order_value
    FROM customers c
    JOIN orders o ON c.customerNumber = o.customerNumber
    JOIN orderdetails od ON o.orderNumber = od.orderNumber
    GROUP BY c.customerNumber
),
payment_totals AS (
    SELECT
        customerNumber,
        SUM(amount) AS total_paid
    FROM payments
    GROUP BY customerNumber
),
customer_balances AS (
    SELECT
        c.customerNumber,
        c.salesRepEmployeeNumber,
        COALESCE(ot.total_order_value, 0) - COALESCE(pt.
           total_paid, 0) AS payment_pending
```

```
    FROM customers c
    LEFT JOIN order_totals ot ON c.customerNumber = ot.
       customerNumber
    LEFT JOIN payment_totals pt ON c.customerNumber = pt.
       customerNumber
)
SELECT
    o.officeCode,
    o.city,
    o.state,
    o.country,
    SUM(cb.payment_pending) AS payment_pending
FROM offices o
JOIN employees e ON o.officeCode = e.officeCode
JOIN customer_balances cb ON e.employeeNumber = cb.
   salesRepEmployeeNumber
GROUP BY o.officeCode, o.city, o.state, o.country
ORDER BY payment_pending DESC;
```

Output Screenshot

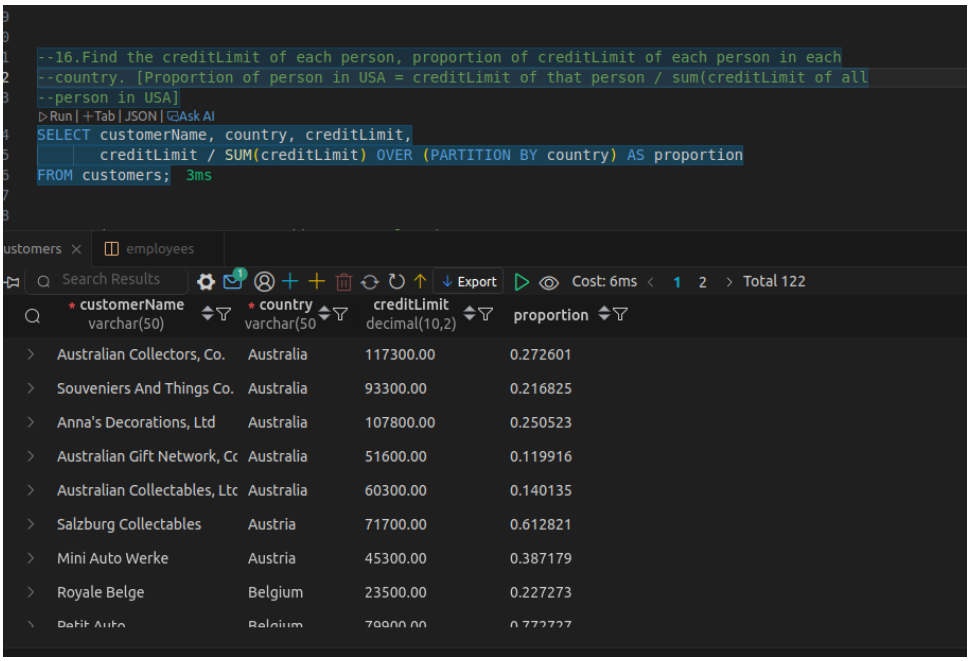


16 Task : Find the creditLimit of each person, proportion of creditLimit of each person in each country. [Proportion of person in USA = creditLimit of that person / sum(creditLimit of all person in USA].

SQL Query

```
SELECT customerName, country, creditLimit,
       creditLimit / SUM(creditLimit) OVER (PARTITION BY country)
           AS proportion
FROM customers;
```

Output Screenshot



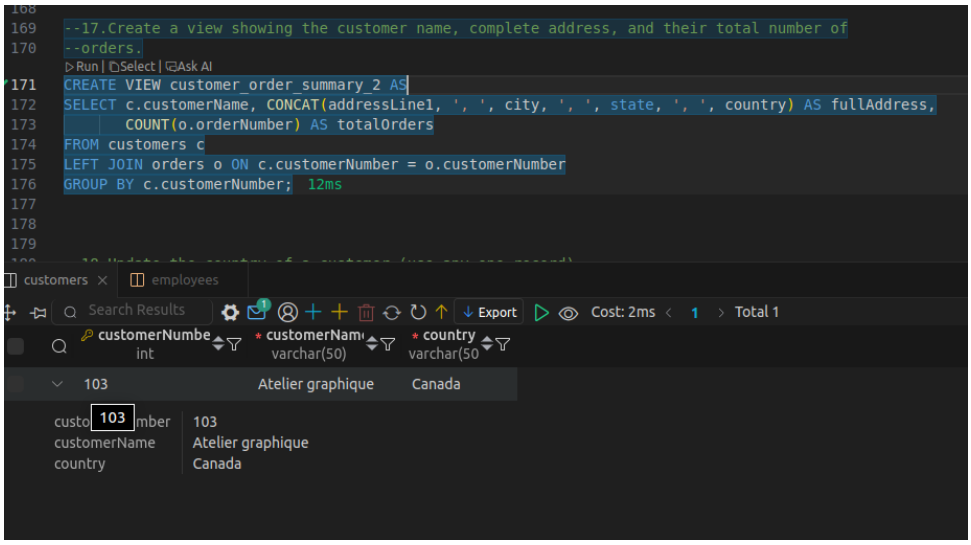
17 Task :Create a view showing the customer name, complete address, and their total number of orders.

SQL Query

```
CREATE VIEW customer_order_summary_2 AS
SELECT c.customerName, CONCAT(addressLine1, ', ', city, ', ',
   state, ', ', country) AS fullAddress,
       COUNT(o.orderNumber) AS totalOrders
```

```
FROM customers c
LEFT JOIN orders o ON c.customerNumber = o.customerNumber
GROUP BY c.customerNumber;
```

Output Screenshot



18 Task :Update the country of a customer (use any one record).

SQL Query

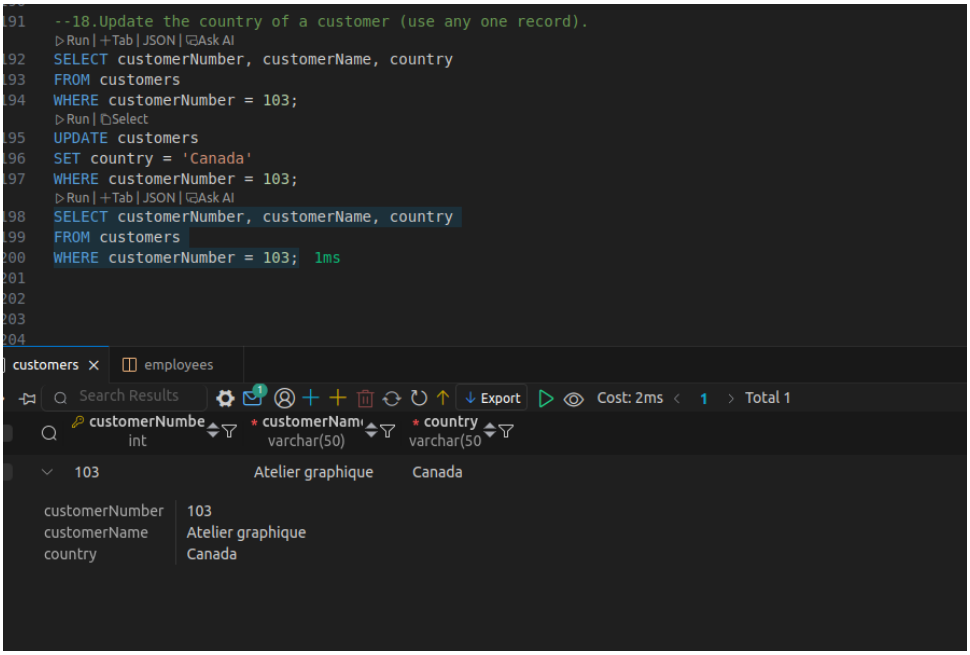
```
SELECT customerNumber, customerName, country
FROM customers
WHERE customerNumber = 103;
UPDATE customers
SET country = 'Canada'
WHERE customerNumber = 103;
SELECT customerNumber, customerName, country
FROM customers
WHERE customerNumber = 103;




CREATE VIEW customer_order_summary AS
SELECT
    c.customerNumber,
    c.customerName,
    CONCAT(c.addressLine1,
           CASE WHEN c.addressLine2 IS NOT NULL THEN CONCAT(', ',
               c.addressLine2) ELSE '' END,
```

```
            ', ', c.city,
            CASE WHEN c.state IS NOT NULL THEN CONCAT(', ', c.
               state) ELSE '' END,
            ', ', c.postalCode,
            ', ', c.country) as complete_address,
    COUNT(o.orderNumber) as total_orders
FROM customers c
LEFT JOIN orders o ON c.customerNumber = o.customerNumber
GROUP BY c.customerNumber, c.customerName, complete_address
ORDER BY total_orders DESC; -- example ID
```

Output Screenshot

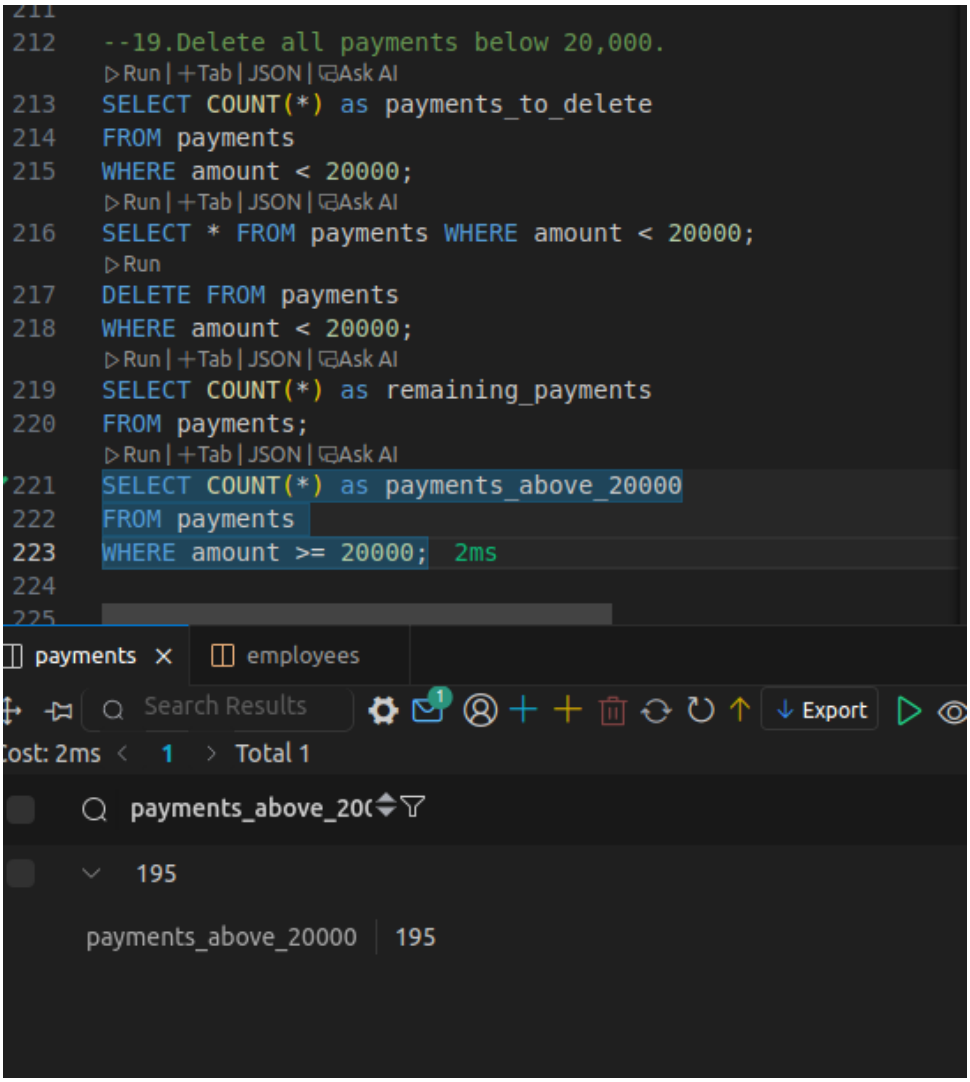


19 Task :Delete all payments below 20,000.

SQL Query

```
SELECT COUNT(*) as payments_to_delete
FROM payments
WHERE amount < 20000;
SELECT * FROM payments WHERE amount < 20000;
DELETE FROM payments
WHERE amount < 20000;
SELECT COUNT(*) as remaining_payments
FROM payments;
SELECT COUNT(*) as payments_above_20000
FROM payments
WHERE amount >= 20000;
```

Output Screenshot



20 Task : Add new payments manually for an existing customer.

SQL Query

```
SELECT customerNumber, customerName
FROM customers
WHERE customerNumber = 103;
INSERT INTO payments (customerNumber, checkNumber, paymentDate,
   amount)
VALUES (103, 'CHK001', '2024-01-15', 25000.00);
INSERT INTO payments (customerNumber, checkNumber, paymentDate,
   amount)
VALUES (103, 'CHK002', '2024-02-15', 30000.00);
SELECT * FROM payments
WHERE customerNumber = 103
```

```
ORDER BY paymentDate DESC;
```

Output Screenshot