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EXERCISE 7: SQL JOINS

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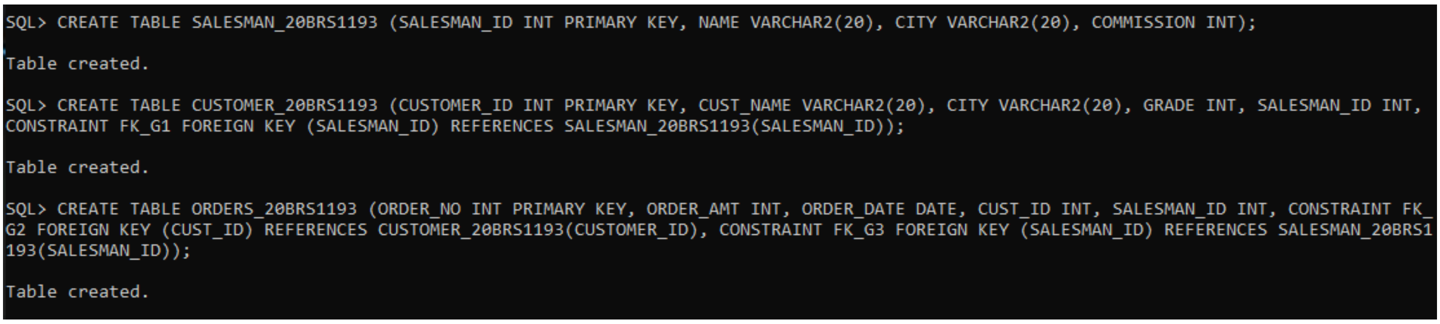
Slot: L43+L44
Class Number: CH2021221000708
Date: 22/09/2021

DBMS LAB ASSIGNMENT 6 MEHER SHRISHTI NIGAM 20BRS1193

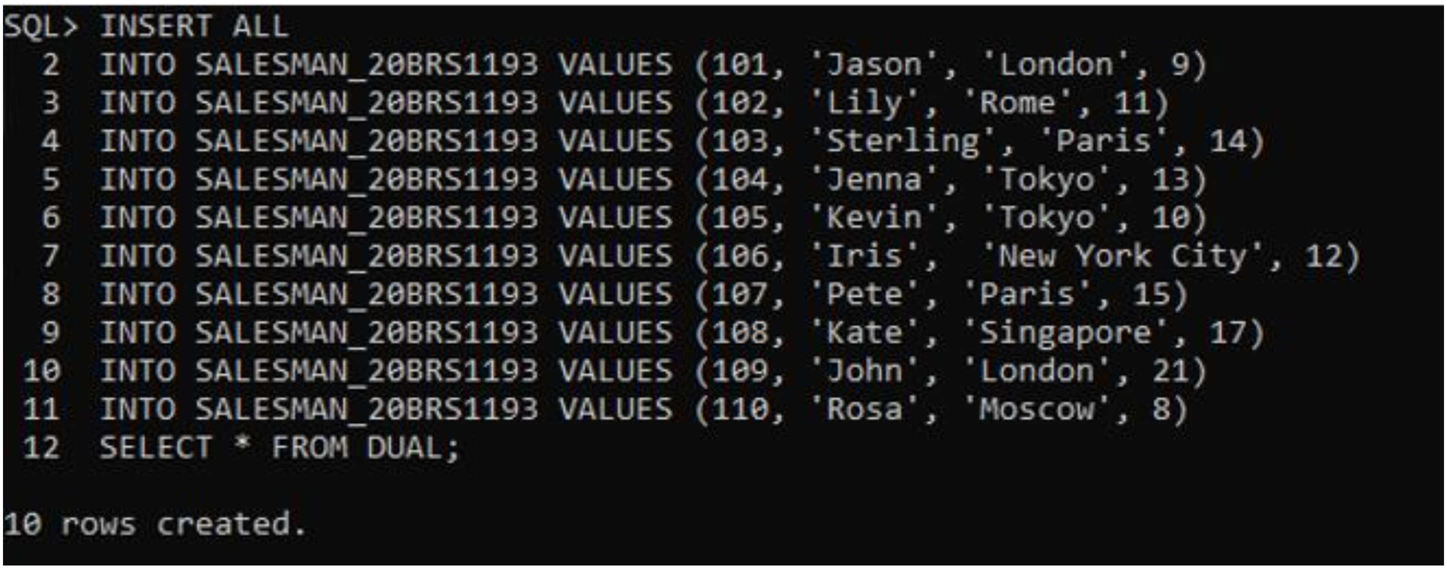
SQL SUBQUERIES

Create three tables: salesman, customer and orders.

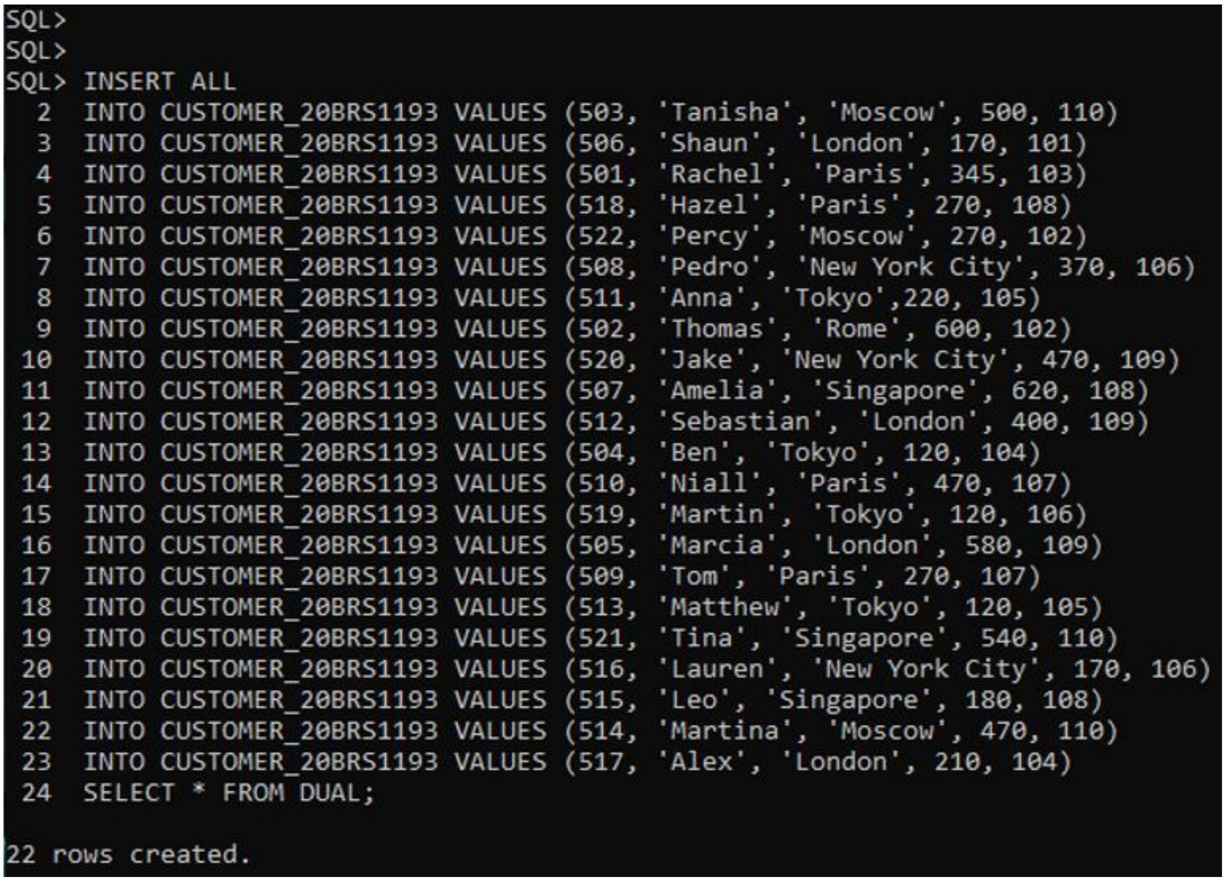
- SALESMAN(SALESMAN_ID, NAME, CITY,COMMISSION)
- CUSTOMER(CUSTOMER_ID, CUST_NAME, CITY, GRADE, SALESMAN_ID)
- ORDERS(ORDER_NO, ORDER_AMT, ORDER_DATE, CUST_ID, SALESMAN_ID)



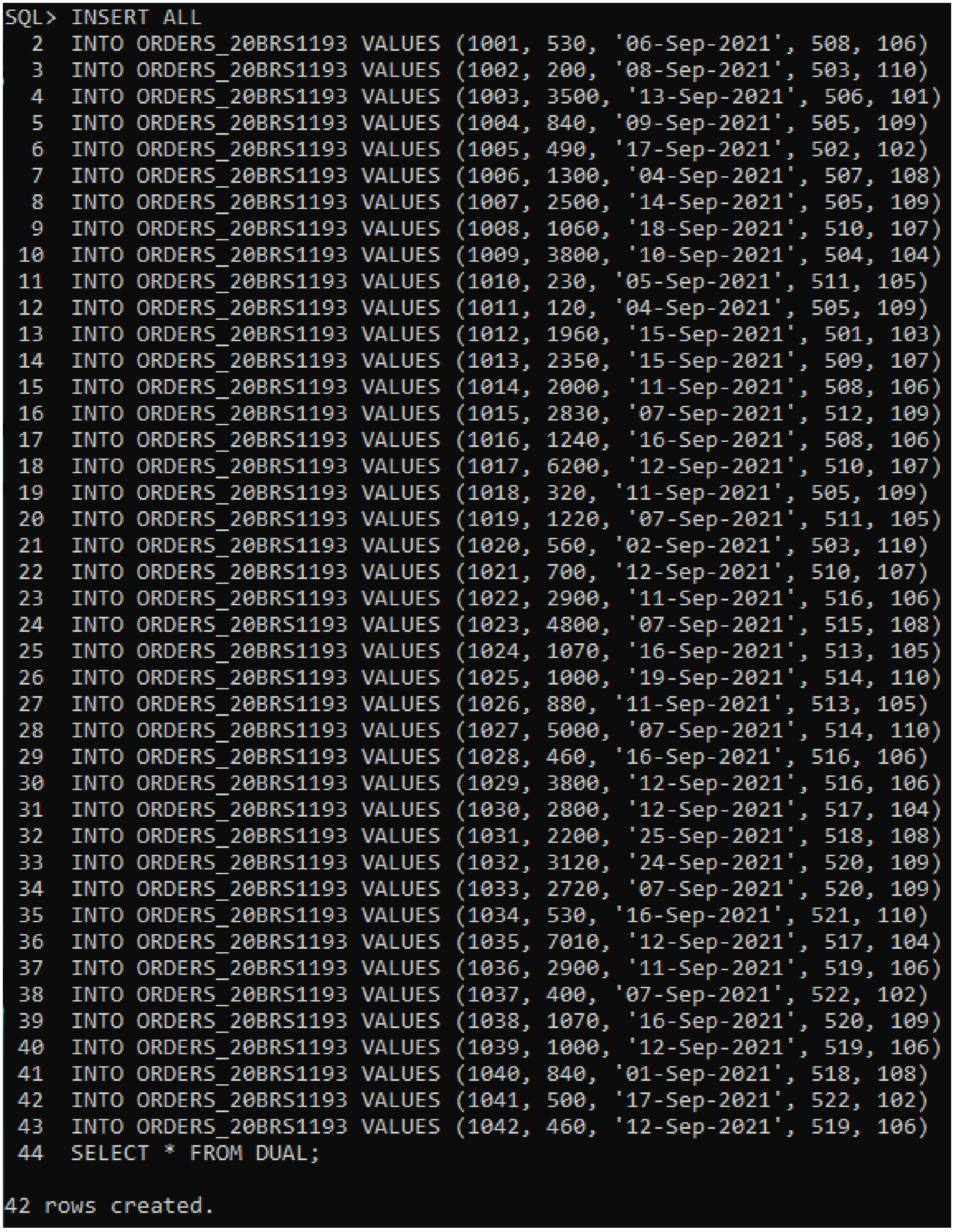
```
SQL> CREATE TABLE SALESMAN_20BRS1193 (SALESMAN_ID INT PRIMARY KEY, NAME VARCHAR2(20), CITY VARCHAR2(20), COMMISSION INT);

Table created.

SQL> CREATE TABLE CUSTOMER_20BRS1193 (CUSTOMER_ID INT PRIMARY KEY, CUST_NAME VARCHAR2(20), CITY VARCHAR2(20), GRADE INT, SALESMAN_ID INT,
CONSTRAINT FK_G1 FOREIGN KEY (SALESMAN_ID) REFERENCES SALESMAN_20BRS1193(SALESMAN_ID));

Table created.

SQL> CREATE TABLE ORDERS_20BRS1193 (ORDER_NO INT PRIMARY KEY, ORDER_AMT INT, ORDER_DATE DATE, CUST_ID INT, SALESMAN_ID INT, CONSTRAINT FK_
G2 FOREIGN KEY (CUST_ID) REFERENCES CUSTOMER_20BRS1193(CUSTOMER_ID), CONSTRAINT FK_G3 FOREIGN KEY (SALESMAN_ID) REFERENCES SALESMAN_20BRS1
193(SALESMAN_ID));

Table created.
```



```
SQL> INSERT ALL
INTO SALESMAN_20BRS1193 VALUES (101, 'Jason', 'London', 9)
INTO SALESMAN_20BRS1193 VALUES (102, 'Lily', 'Rome', 11)
INTO SALESMAN_20BRS1193 VALUES (103, 'Sterling', 'Paris', 14)
INTO SALESMAN_20BRS1193 VALUES (104, 'Jenna', 'Tokyo', 13)
INTO SALESMAN_20BRS1193 VALUES (105, 'Kevin', 'Tokyo', 10)
INTO SALESMAN_20BRS1193 VALUES (106, 'Iris',  'New York City', 12)
INTO SALESMAN_20BRS1193 VALUES (107, 'Pete', 'Paris', 15)
INTO SALESMAN_20BRS1193 VALUES (108, 'Kate', 'Singapore', 17)
INTO SALESMAN_20BRS1193 VALUES (109, 'John', 'London', 21)
INTO SALESMAN_20BRS1193 VALUES (110, 'Rosa', 'Moscow', 8)
SELECT * FROM DUAL;

10 rows created.
```



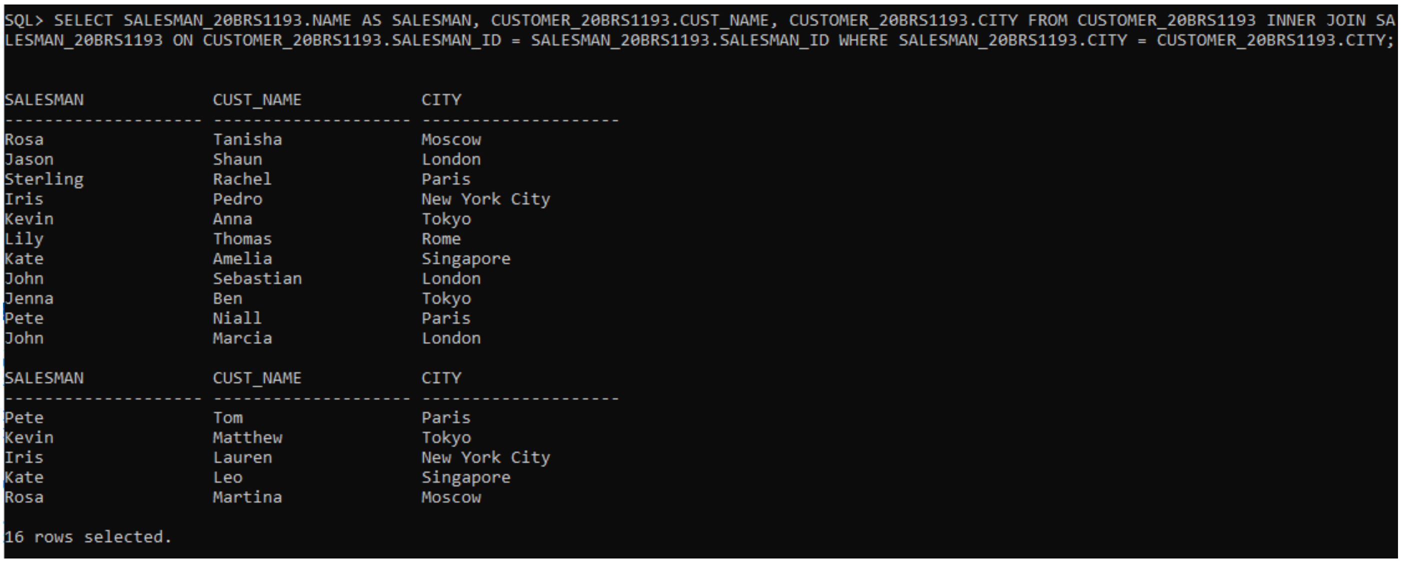
```
SQL>
SQL>
SQL> INSERT ALL
     INTO CUSTOMER_20BRS1193 VALUES (503, 'Tanisha', 'Moscow', 500, 110)
     INTO CUSTOMER_20BRS1193 VALUES (506, 'Shaun', 'London', 170, 101)
     INTO CUSTOMER_20BRS1193 VALUES (501, 'Rachel', 'Paris', 345, 103)
     INTO CUSTOMER_20BRS1193 VALUES (518, 'Hazel', 'Paris', 270, 108)
     INTO CUSTOMER_20BRS1193 VALUES (522, 'Percy', 'Moscow', 270, 102)
     INTO CUSTOMER_20BRS1193 VALUES (508, 'Pedro', 'New York City', 370, 106)
     INTO CUSTOMER_20BRS1193 VALUES (511, 'Anna', 'Tokyo',220, 105)
     INTO CUSTOMER_20BRS1193 VALUES (502, 'Thomas', 'Rome', 600, 102)
     INTO CUSTOMER_20BRS1193 VALUES (520, 'Jake', 'New York City', 470, 109)
     INTO CUSTOMER_20BRS1193 VALUES (507, 'Amelia', 'Singapore', 620, 108)
     INTO CUSTOMER_20BRS1193 VALUES (512, 'Sebastian', 'London', 400, 109)
     INTO CUSTOMER_20BRS1193 VALUES (504, 'Ben', 'Tokyo', 120, 104)
     INTO CUSTOMER_20BRS1193 VALUES (510, 'Niall', 'Paris', 470, 107)
     INTO CUSTOMER_20BRS1193 VALUES (519, 'Martin', 'Tokyo', 120, 106)
     INTO CUSTOMER_20BRS1193 VALUES (505, 'Marcia', 'London', 580, 109)
     INTO CUSTOMER_20BRS1193 VALUES (509, 'Tom', 'Paris', 270, 107)
     INTO CUSTOMER_20BRS1193 VALUES (513, 'Matthew', 'Tokyo', 120, 105)
     INTO CUSTOMER_20BRS1193 VALUES (521, 'Tina', 'Singapore', 540, 110)
     INTO CUSTOMER_20BRS1193 VALUES (516, 'Lauren', 'New York City', 170, 106)
     INTO CUSTOMER_20BRS1193 VALUES (515, 'Leo', 'Singapore', 180, 108)
     INTO CUSTOMER_20BRS1193 VALUES (514, 'Martina', 'Moscow', 470, 110)
     INTO CUSTOMER_20BRS1193 VALUES (517, 'Alex', 'London', 210, 104)
     SELECT * FROM DUAL;

22 rows created.
```



```
SQL> INSERT ALL
     INTO ORDERS_20BRS1193 VALUES (1001, 530, '06-Sep-2021', 508, 106)
     INTO ORDERS_20BRS1193 VALUES (1002, 200, '08-Sep-2021', 503, 110)
     INTO ORDERS_20BRS1193 VALUES (1003, 3500, '13-Sep-2021', 506, 101)
     INTO ORDERS_20BRS1193 VALUES (1004, 840, '09-Sep-2021', 505, 109)
     INTO ORDERS_20BRS1193 VALUES (1005, 490, '17-Sep-2021', 502, 102)
     INTO ORDERS_20BRS1193 VALUES (1006, 1300, '04-Sep-2021', 507, 108)
     INTO ORDERS_20BRS1193 VALUES (1007, 2500, '14-Sep-2021', 505, 109)
     INTO ORDERS_20BRS1193 VALUES (1008, 1060, '18-Sep-2021', 510, 107)
     INTO ORDERS_20BRS1193 VALUES (1009, 3800, '10-Sep-2021', 504, 104)
     INTO ORDERS_20BRS1193 VALUES (1010, 230, '05-Sep-2021', 511, 105)
     INTO ORDERS_20BRS1193 VALUES (1011, 120, '04-Sep-2021', 505, 109)
     INTO ORDERS_20BRS1193 VALUES (1012, 1960, '15-Sep-2021', 501, 103)
     INTO ORDERS_20BRS1193 VALUES (1013, 2350, '15-Sep-2021', 509, 107)
     INTO ORDERS_20BRS1193 VALUES (1014, 2000, '11-Sep-2021', 508, 106)
     INTO ORDERS_20BRS1193 VALUES (1015, 2830, '07-Sep-2021', 512, 109)
     INTO ORDERS_20BRS1193 VALUES (1016, 1240, '16-Sep-2021', 508, 106)
     INTO ORDERS_20BRS1193 VALUES (1017, 6200, '12-Sep-2021', 510, 107)
     INTO ORDERS_20BRS1193 VALUES (1018, 320, '11-Sep-2021', 505, 109)
     INTO ORDERS_20BRS1193 VALUES (1019, 1220, '07-Sep-2021', 511, 105)
     INTO ORDERS_20BRS1193 VALUES (1020, 560, '02-Sep-2021', 503, 110)
     INTO ORDERS_20BRS1193 VALUES (1021, 700, '12-Sep-2021', 510, 107)
     INTO ORDERS_20BRS1193 VALUES (1022, 2900, '11-Sep-2021', 516, 106)
     INTO ORDERS_20BRS1193 VALUES (1023, 4800, '07-Sep-2021', 515, 108)
     INTO ORDERS_20BRS1193 VALUES (1024, 1070, '16-Sep-2021', 513, 105)
     INTO ORDERS_20BRS1193 VALUES (1025, 1000, '19-Sep-2021', 514, 110)
     INTO ORDERS_20BRS1193 VALUES (1026, 880, '11-Sep-2021', 513, 105)
     INTO ORDERS_20BRS1193 VALUES (1027, 5000, '07-Sep-2021', 514, 110)
     INTO ORDERS_20BRS1193 VALUES (1028, 460, '16-Sep-2021', 516, 106)
     INTO ORDERS_20BRS1193 VALUES (1029, 3800, '12-Sep-2021', 516, 106)
     INTO ORDERS_20BRS1193 VALUES (1030, 2800, '12-Sep-2021', 517, 104)
     INTO ORDERS_20BRS1193 VALUES (1031, 2200, '25-Sep-2021', 518, 108)
     INTO ORDERS_20BRS1193 VALUES (1032, 3120, '24-Sep-2021', 520, 109)
     INTO ORDERS_20BRS1193 VALUES (1033, 2720, '07-Sep-2021', 520, 109)
     INTO ORDERS_20BRS1193 VALUES (1034, 530, '16-Sep-2021', 521, 110)
     INTO ORDERS_20BRS1193 VALUES (1035, 7010, '12-Sep-2021', 517, 104)
     INTO ORDERS_20BRS1193 VALUES (1036, 2900, '11-Sep-2021', 519, 106)
     INTO ORDERS_20BRS1193 VALUES (1037, 400, '07-Sep-2021', 522, 102)
     INTO ORDERS_20BRS1193 VALUES (1038, 1070, '16-Sep-2021', 520, 109)
     INTO ORDERS_20BRS1193 VALUES (1039, 1000, '12-Sep-2021', 519, 106)
     INTO ORDERS_20BRS1193 VALUES (1040, 840, '01-Sep-2021', 518, 108)
     INTO ORDERS_20BRS1193 VALUES (1041, 500, '17-Sep-2021', 522, 102)
     INTO ORDERS_20BRS1193 VALUES (1042, 460, '12-Sep-2021', 519, 106)
     SELECT * FROM DUAL;

42 rows created.
```

1. Prepare a list with salesman name, customer name and their cities for the salesmen and customer who belongs to the same city.

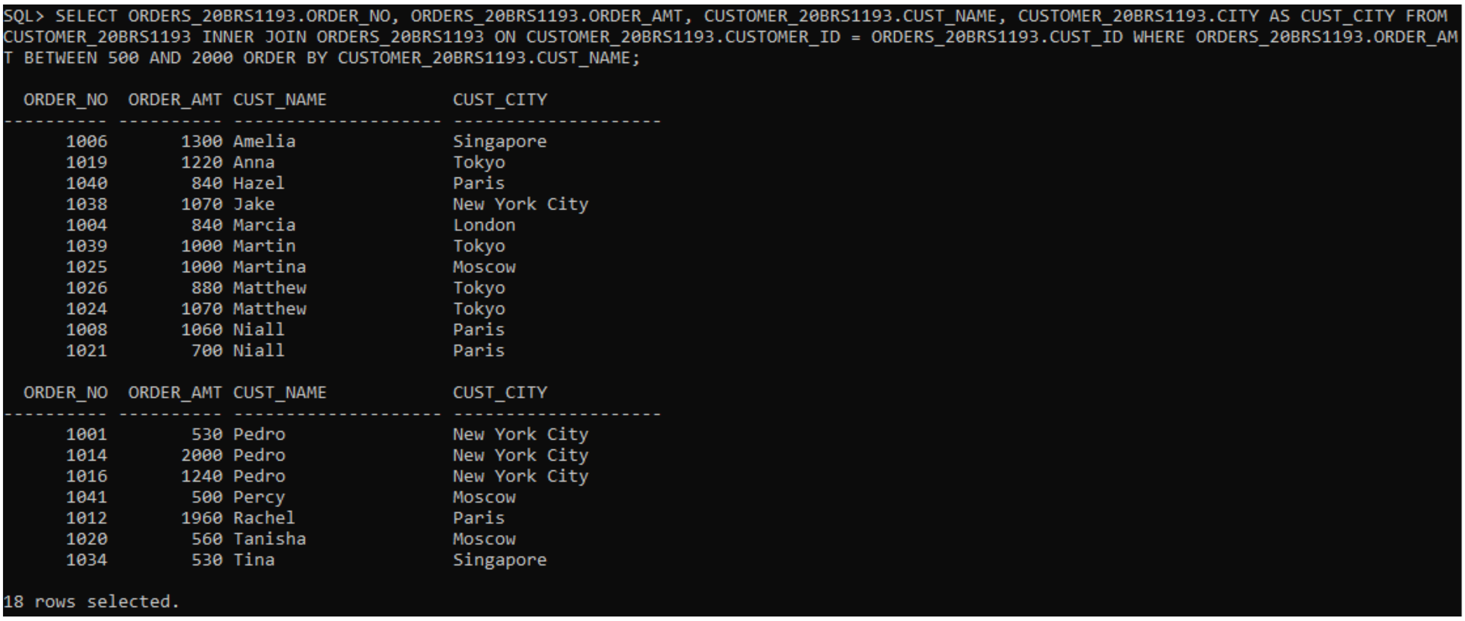
SELECT SALESMAN_20BRS1193.NAME AS SALESMAN, CUSTOMER_20BRS1193.CUST_NAME, CUSTOMER_20BRS1193.CITY FROM CUSTOMER_20BRS1193 INNER JOIN SALESMAN_20BRS1193 ON CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID WHERE SALESMAN_20BRS1193.CITY = CUSTOMER_20BRS1193.CITY;



```
SQL> SELECT SALESMAN_20BRS1193.NAME AS SALESMAN, CUSTOMER_20BRS1193.CUST_NAME, CUSTOMER_20BRS1193.CITY FROM CUSTOMER_20BRS1193 INNER JOIN SA
LESMAN_20BRS1193 ON CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID WHERE SALESMAN_20BRS1193.CITY = CUSTOMER_20BRS1193.CITY;


SALESMAN             CUST_NAME            CITY
-------------------- -------------------- --------------------
Rosa                 Tanisha              Moscow
Jason                Shaun                London
Sterling             Rachel               Paris
Iris                 Pedro                New York City
Kevin                Anna                 Tokyo
Lily                 Thomas               Rome
Kate                 Amelia               Singapore
John                 Sebastian            London
Jenna                Ben                  Tokyo
Pete                 Niall                Paris
John                 Marcia               London

SALESMAN             CUST_NAME            CITY
-------------------- -------------------- --------------------
Pete                 Tom                  Paris
Kevin                Matthew              Tokyo
Iris                 Lauren               New York City
Kate                 Leo                  Singapore
Rosa                 Martina              Moscow

16 rows selected.
```

2. Make a list with order no, purchase amount, customer name and their cities for those orders which order amount between 500 and 2000.

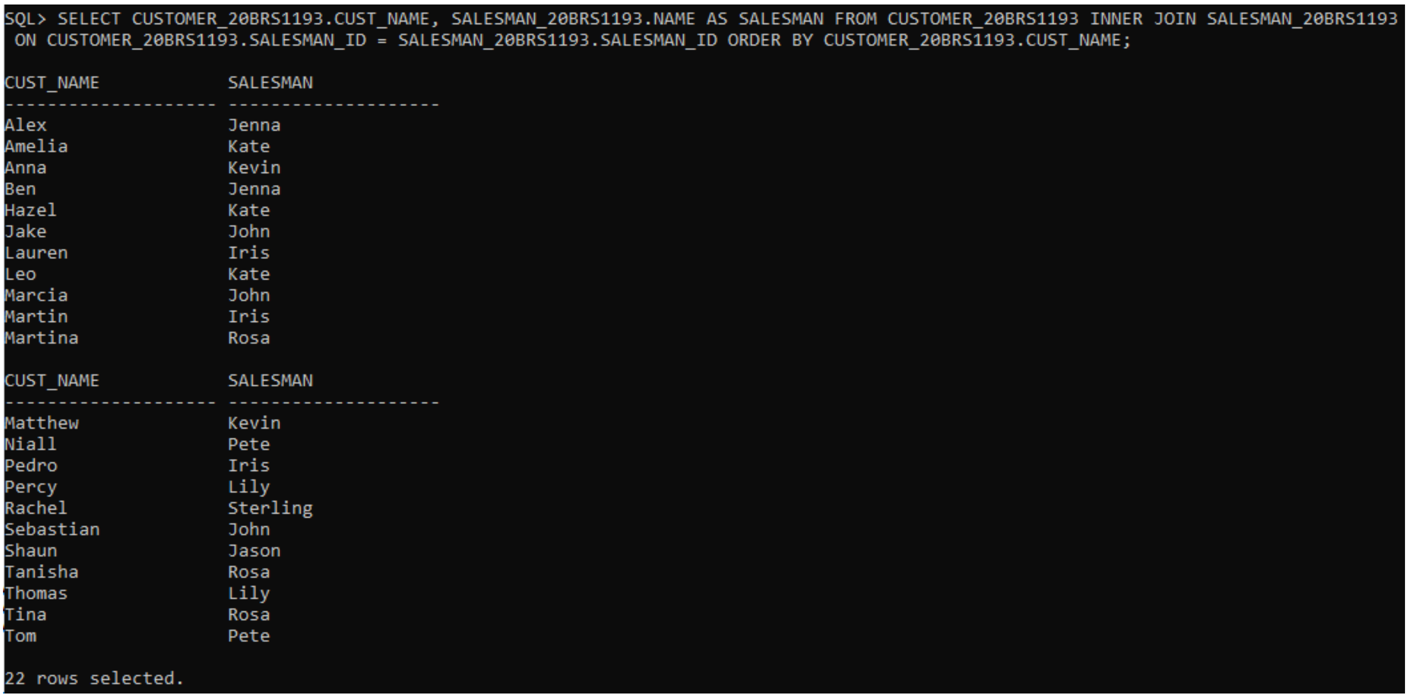
SELECT ORDERS_20BRS1193.ORDER_NO, ORDERS_20BRS1193.ORDER_AMT, CUSTOMER_20BRS1193.CUST_NAME, CUSTOMER_20BRS1193.CITY AS CUST_CITY FROM CUSTOMER_20BRS1193 INNER JOIN ORDERS_20BRS1193 ON CUSTOMER_20BRS1193.CUSTOMER_ID = ORDERS_20BRS1193.CUST_ID WHERE ORDERS_20BRS1193.ORDER_AMT BETWEEN 500 AND 2000 ORDER BY CUSTOMER_20BRS1193.CUST_NAME;



```
SQL> SELECT ORDERS_20BRS1193.ORDER_NO, ORDERS_20BRS1193.ORDER_AMT, CUSTOMER_20BRS1193.CUST_NAME, CUSTOMER_20BRS1193.CITY AS CUST_CITY FROM
CUSTOMER_20BRS1193 INNER JOIN ORDERS_20BRS1193 ON CUSTOMER_20BRS1193.CUSTOMER_ID = ORDERS_20BRS1193.CUST_ID WHERE ORDERS_20BRS1193.ORDER_AM
T BETWEEN 500 AND 2000 ORDER BY CUSTOMER_20BRS1193.CUST_NAME;

  ORDER_NO  ORDER_AMT CUST_NAME            CUST_CITY
---------- ---------- -------------------- --------------------
      1006       1300 Amelia               Singapore
      1019       1220 Anna                 Tokyo
      1040        840 Hazel                Paris
      1038       1070 Jake                 New York City
      1004        840 Marcia               London
      1039       1000 Martin               Tokyo
      1025       1000 Martina              Moscow
      1026        880 Matthew              Tokyo
      1024       1070 Matthew              Tokyo
      1008       1060 Niall                Paris
      1021        700 Niall                Paris

  ORDER_NO  ORDER_AMT CUST_NAME            CUST_CITY
---------- ---------- -------------------- --------------------
      1001        530 Pedro                New York City
      1014       2000 Pedro                New York City
      1016       1240 Pedro                New York City
      1041        500 Percy                Moscow
      1012       1960 Rachel               Paris
      1020        560 Tanisha              Moscow
      1034        530 Tina                 Singapore

18 rows selected.
```

3. Know which salesman is working for which customer.

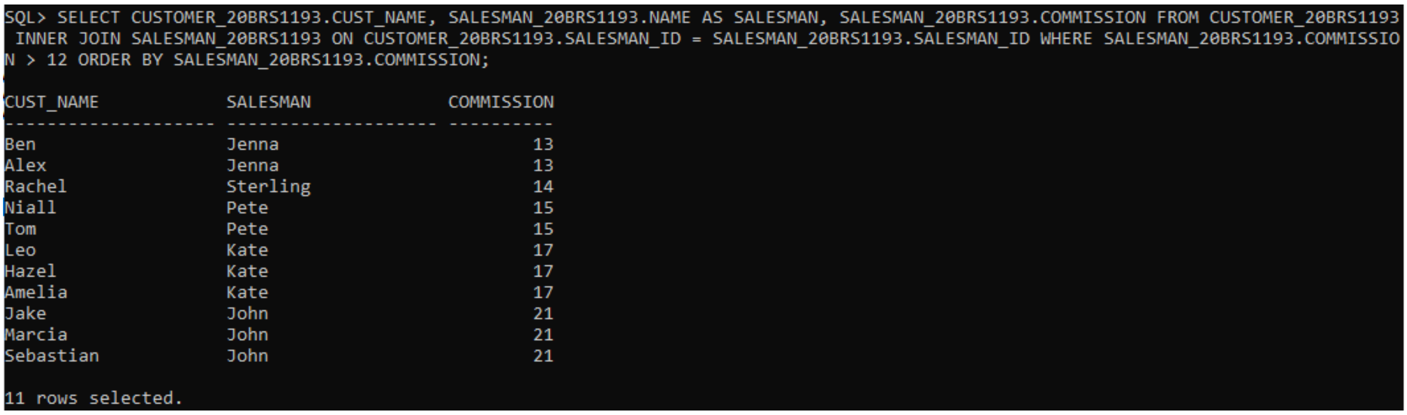
SELECT CUSTOMER_20BRS1193.CUST_NAME, SALESMAN_20BRS1193.NAME AS SALESMAN FROM CUSTOMER_20BRS1193 INNER JOIN SALESMAN_20BRS1193 ON CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID ORDER BY CUSTOMER_20BRS1193.CUST_NAME;



```
SQL> SELECT CUSTOMER_20BRS1193.CUST_NAME, SALESMAN_20BRS1193.NAME AS SALESMAN FROM CUSTOMER_20BRS1193 INNER JOIN SALESMAN_20BRS1193
 ON CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID ORDER BY CUSTOMER_20BRS1193.CUST_NAME;

CUST_NAME            SALESMAN
-------------------- --------------------
Alex                 Jenna
Amelia               Kate
Anna                 Kevin
Ben                  Jenna
Hazel                Kate
Jake                 John
Lauren               Iris
Leo                  Kate
Marcia               John
Martin               Iris
Martina              Rosa

CUST_NAME            SALESMAN
-------------------- --------------------
Matthew              Kevin
Niall                Pete
Pedro                Iris
Percy                Lily
Rachel               Sterling
Sebastian            John
Shaun                Jason
Tanisha              Rosa
Thomas               Lily
Tina                 Rosa
Tom                  Pete

22 rows selected.
```

4. Find the list of customers who appointed a salesman for their jobs who gets a commission from the company is more than 12%.

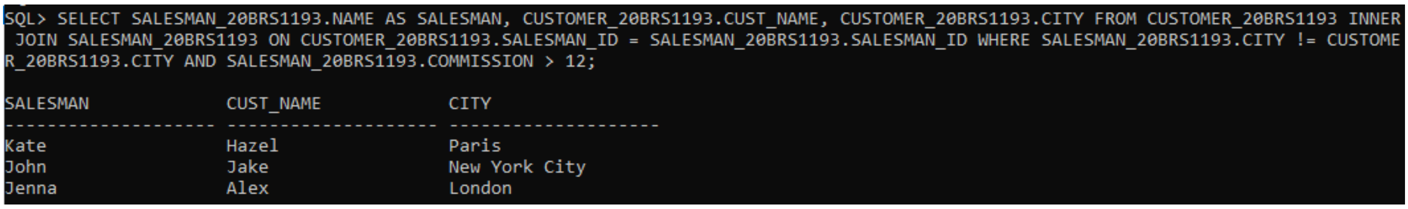
SELECT CUSTOMER_20BRS1193.CUST_NAME, SALESMAN_20BRS1193.NAME AS SALESMAN, SALESMAN_20BRS1193.COMMISSION FROM CUSTOMER_20BRS1193 INNER JOIN SALESMAN_20BRS1193 ON CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID WHERE SALESMAN_20BRS1193.COMMISSION > 12 ORDER BY SALESMAN_20BRS1193.COMMISSION;



```
SQL> SELECT CUSTOMER_20BRS1193.CUST_NAME, SALESMAN_20BRS1193.NAME AS SALESMAN, SALESMAN_20BRS1193.COMMISSION FROM CUSTOMER_20BRS1193
 INNER JOIN SALESMAN_20BRS1193 ON CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID WHERE SALESMAN_20BRS1193.COMMISSIO
N > 12 ORDER BY SALESMAN_20BRS1193.COMMISSION;

CUST_NAME            SALESMAN             COMMISSION
-------------------- -------------------- ----------
Ben                  Jenna                        13
Alex                 Jenna                        13
Rachel               Sterling                     14
Niall                Pete                         15
Tom                  Pete                         15
Leo                  Kate                         17
Hazel                Kate                         17
Amelia               Kate                         17
Jake                 John                         21
Marcia               John                         21
Sebastian            John                         21

11 rows selected.
```

5. Find the list of customers who appointed a salesman for their jobs who does not live in the same city where their customer lives, and gets a commission is above 12%

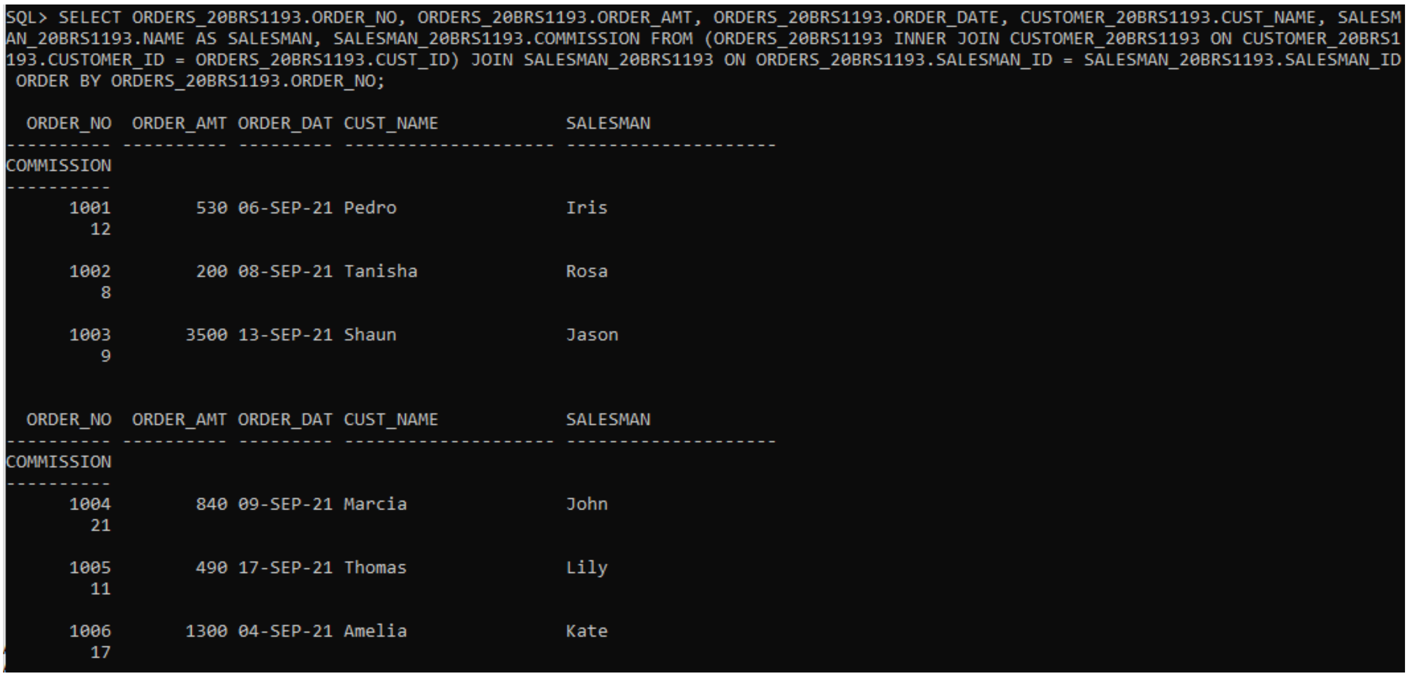
SELECT SALESMAN_20BRS1193.NAME AS SALESMAN, CUSTOMER_20BRS1193.CUST_NAME, CUSTOMER_20BRS1193.CITY FROM CUSTOMER_20BRS1193 INNER JOIN SALESMAN_20BRS1193 ON CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID WHERE SALESMAN_20BRS1193.CITY != CUSTOMER_20BRS1193.CITY AND SALESMAN_20BRS1193.COMMISSION > 12;



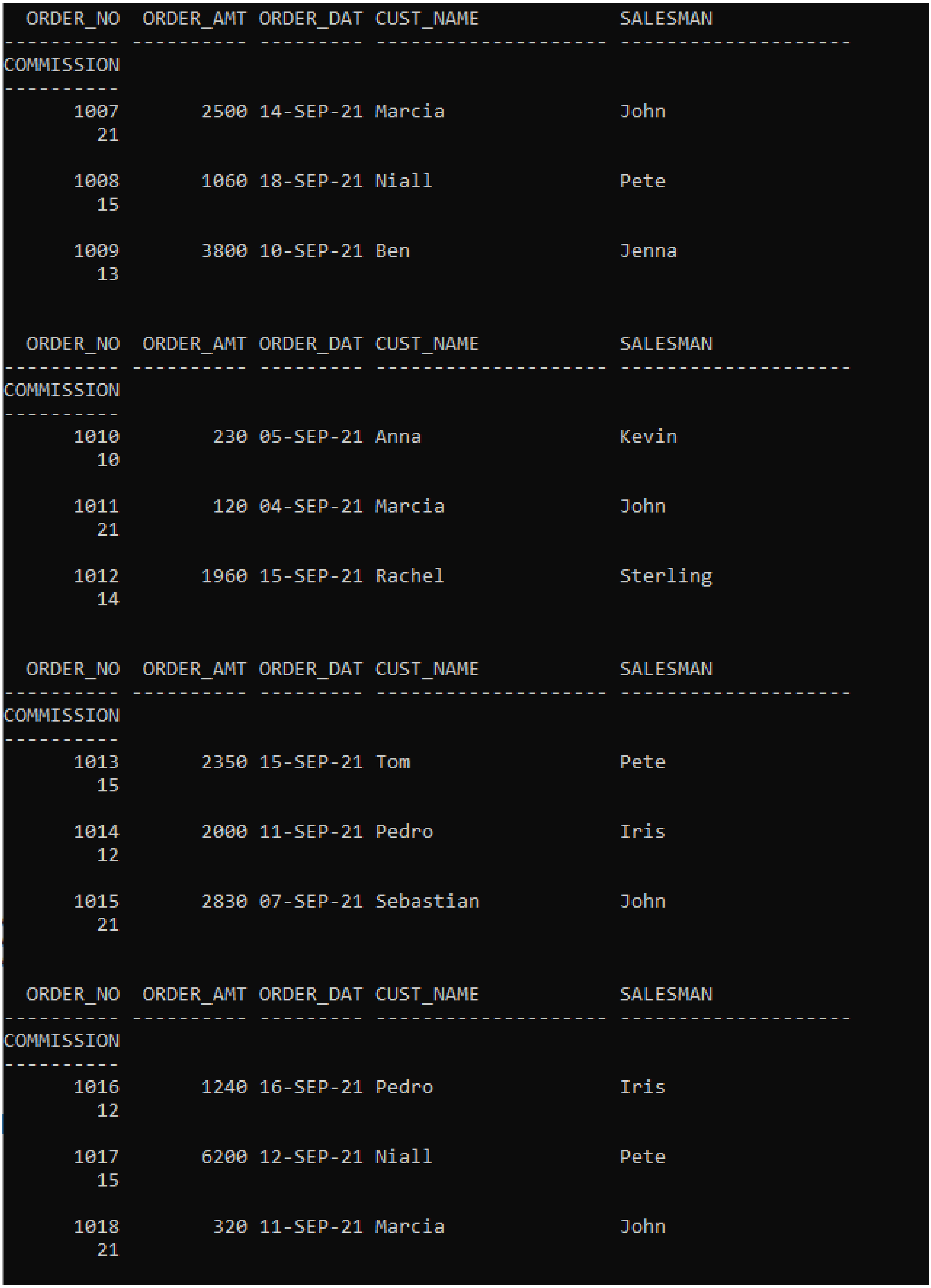
```
SQL> SELECT SALESMAN_20BRS1193.NAME AS SALESMAN, CUSTOMER_20BRS1193.CUST_NAME, CUSTOMER_20BRS1193.CITY FROM CUSTOMER_20BRS1193 INNER
 JOIN SALESMAN_20BRS1193 ON CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID WHERE SALESMAN_20BRS1193.CITY != CUSTOME
R_20BRS1193.CITY AND SALESMAN_20BRS1193.COMMISSION > 12;

SALESMAN             CUST_NAME            CITY
-------------------- -------------------- --------------------
Kate                 Hazel                Paris
John                 Jake                 New York City
Jenna                Alex                 London
```

6. Find the details of an order i.e. order number, order date, amount of order, which customer gives the order and which salesman works for that customer and how much commission he gets for an order.

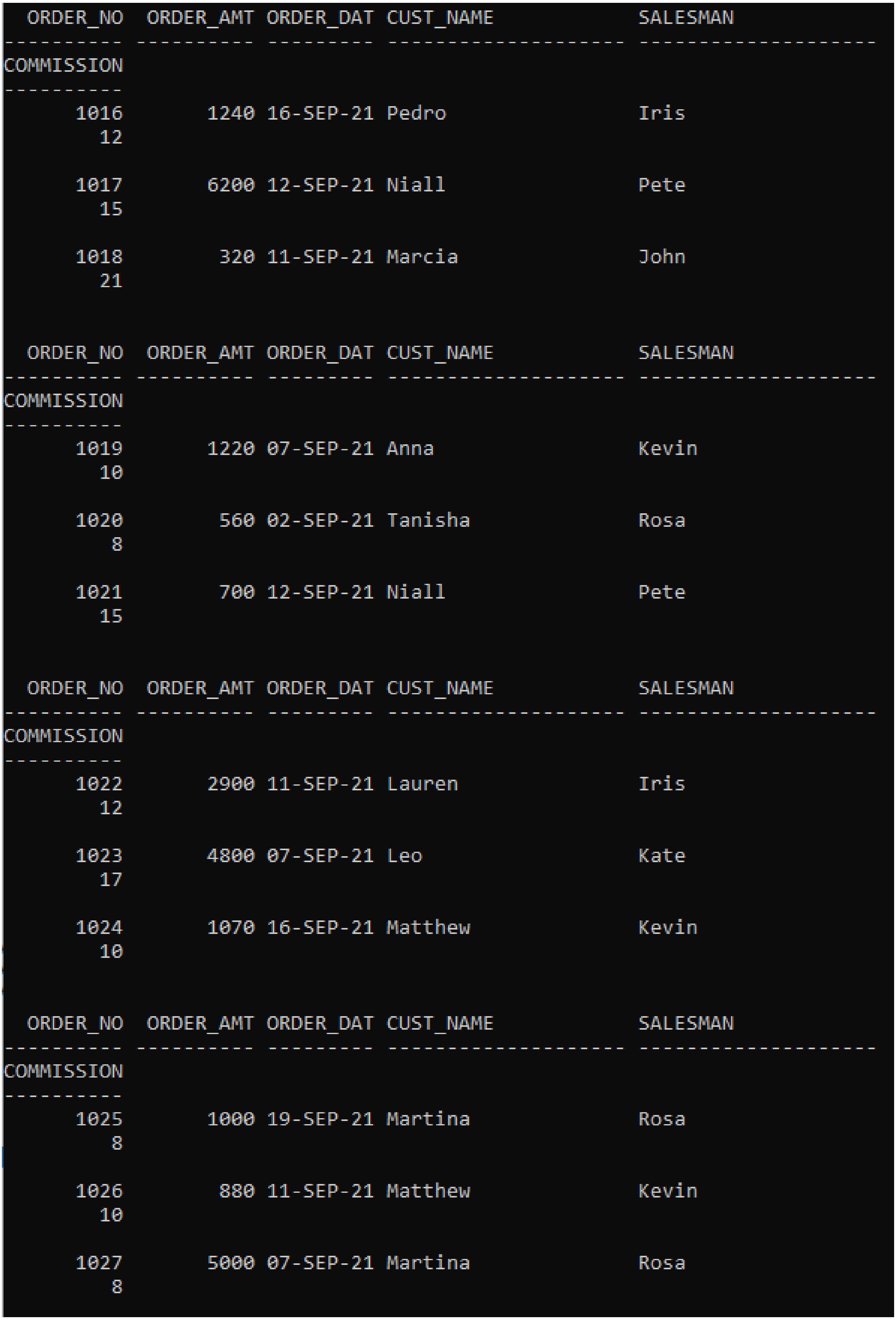
SELECT ORDERS_20BRS1193.ORDER_NO, ORDERS_20BRS1193.ORDER_AMT, ORDERS_20BRS1193.ORDER_DATE, CUSTOMER_20BRS1193.CUST_NAME, SALESMAN_20BRS1193.NAME AS SALESMAN, SALESMAN_20BRS1193.COMMISSION FROM (ORDERS_20BRS1193 INNER JOIN CUSTOMER_20BRS1193 ON CUSTOMER_20BRS1193.CUSTOMER_ID = ORDERS_20BRS1193.CUST_ID) JOIN SALESMAN_20BRS1193 ON ORDERS_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID ORDER BY ORDERS_20BRS1193.ORDER_NO;



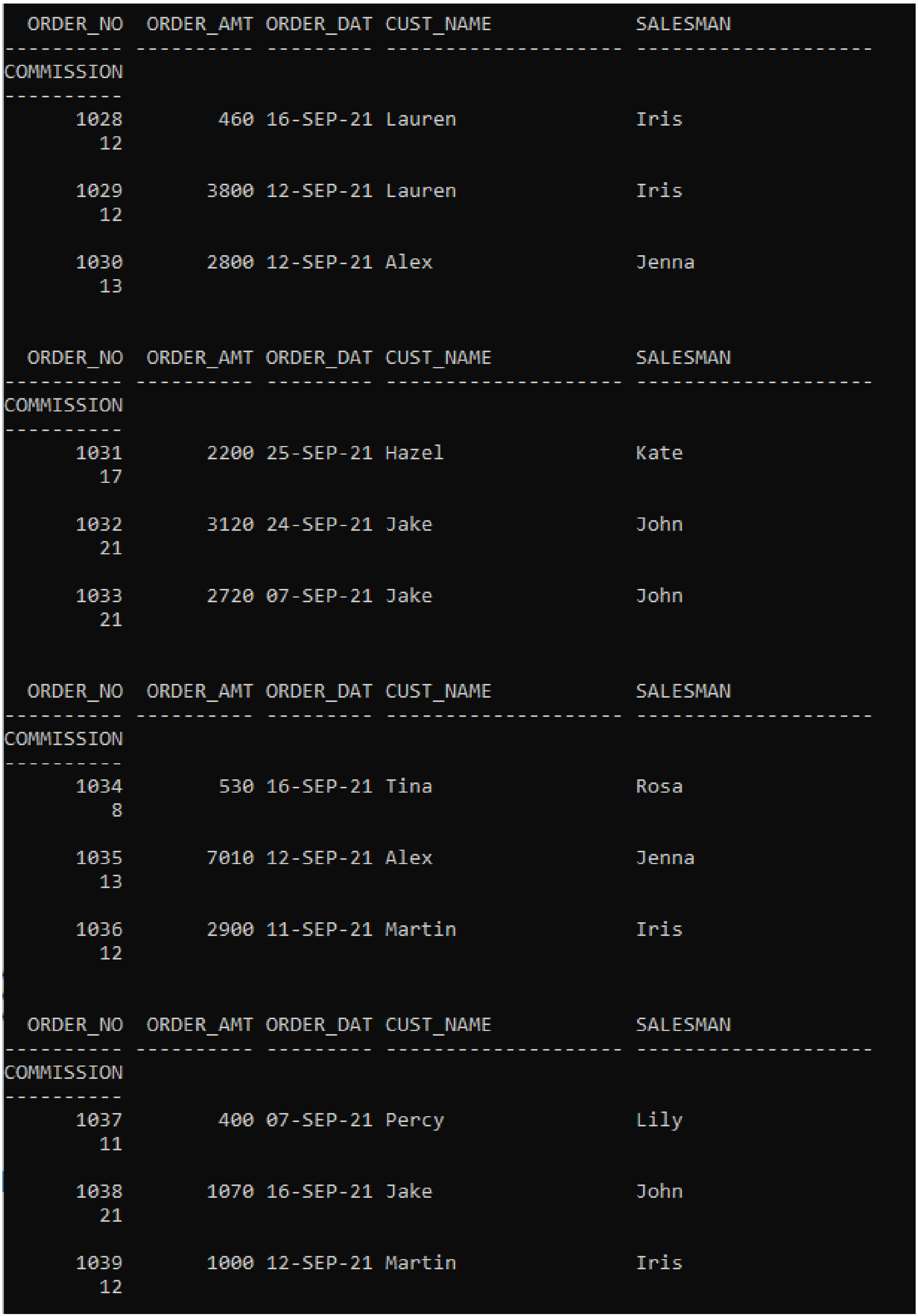
```
SQL> SELECT ORDERS_20BRS1193.ORDER_NO, ORDERS_20BRS1193.ORDER_AMT, ORDERS_20BRS1193.ORDER_DATE, CUSTOMER_20BRS1193.CUST_NAME, SALESM
AN_20BRS1193.NAME AS SALESMAN, SALESMAN_20BRS1193.COMMISSION FROM (ORDERS_20BRS1193 INNER JOIN CUSTOMER_20BRS1193 ON CUSTOMER_20BRS1
193.CUSTOMER_ID = ORDERS_20BRS1193.CUST_ID) JOIN SALESMAN_20BRS1193 ON ORDERS_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID
 ORDER BY ORDERS_20BRS1193.ORDER_NO;

  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1001        530 06-SEP-21 Pedro                Iris
        12

      1002        200 08-SEP-21 Tanisha              Rosa
         8

      1003       3500 13-SEP-21 Shaun                Jason
         9


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1004        840 09-SEP-21 Marcia               John
        21

      1005        490 17-SEP-21 Thomas               Lily
        11

      1006       1300 04-SEP-21 Amelia               Kate
        17
```



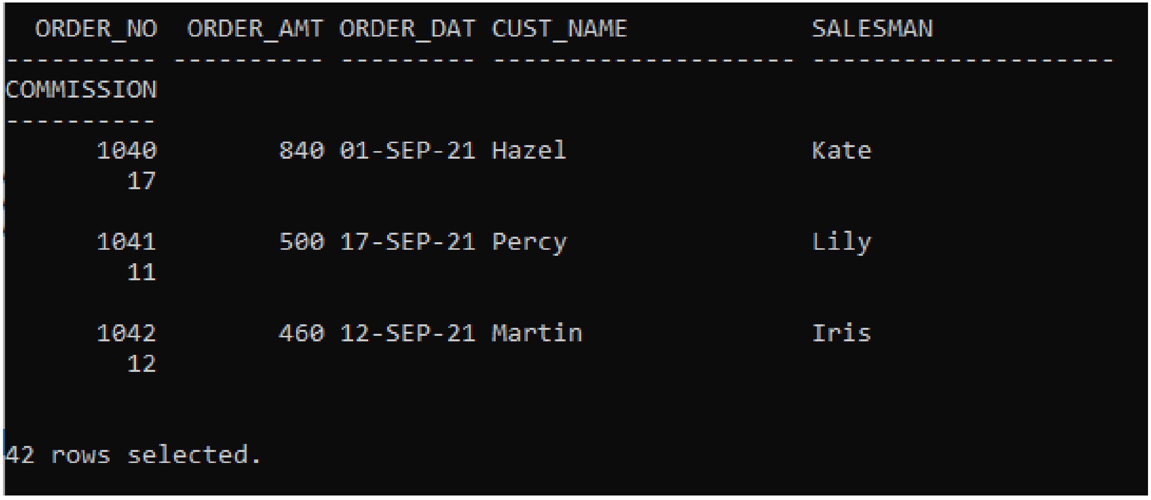
```
  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1007       2500 14-SEP-21 Marcia               John
        21

      1008       1060 18-SEP-21 Niall                Pete
        15

      1009       3800 10-SEP-21 Ben                  Jenna
        13


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1010        230 05-SEP-21 Anna                 Kevin
        10

      1011        120 04-SEP-21 Marcia               John
        21

      1012       1960 15-SEP-21 Rachel               Sterling
        14


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1013       2350 15-SEP-21 Tom                  Pete
        15

      1014       2000 11-SEP-21 Pedro                Iris
        12

      1015       2830 07-SEP-21 Sebastian            John
        21


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1016       1240 16-SEP-21 Pedro                Iris
        12

      1017       6200 12-SEP-21 Niall                Pete
        15

      1018        320 11-SEP-21 Marcia               John
        21
```



```
  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1016       1240 16-SEP-21 Pedro                Iris
        12

      1017       6200 12-SEP-21 Niall                Pete
        15

      1018        320 11-SEP-21 Marcia               John
        21


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1019       1220 07-SEP-21 Anna                 Kevin
        10

      1020        560 02-SEP-21 Tanisha              Rosa
         8

      1021        700 12-SEP-21 Niall                Pete
        15


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1022       2900 11-SEP-21 Lauren               Iris
        12

      1023       4800 07-SEP-21 Leo                  Kate
        17

      1024       1070 16-SEP-21 Matthew              Kevin
        10


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1025       1000 19-SEP-21 Martina              Rosa
         8

      1026        880 11-SEP-21 Matthew              Kevin
        10

      1027       5000 07-SEP-21 Martina              Rosa
         8
```



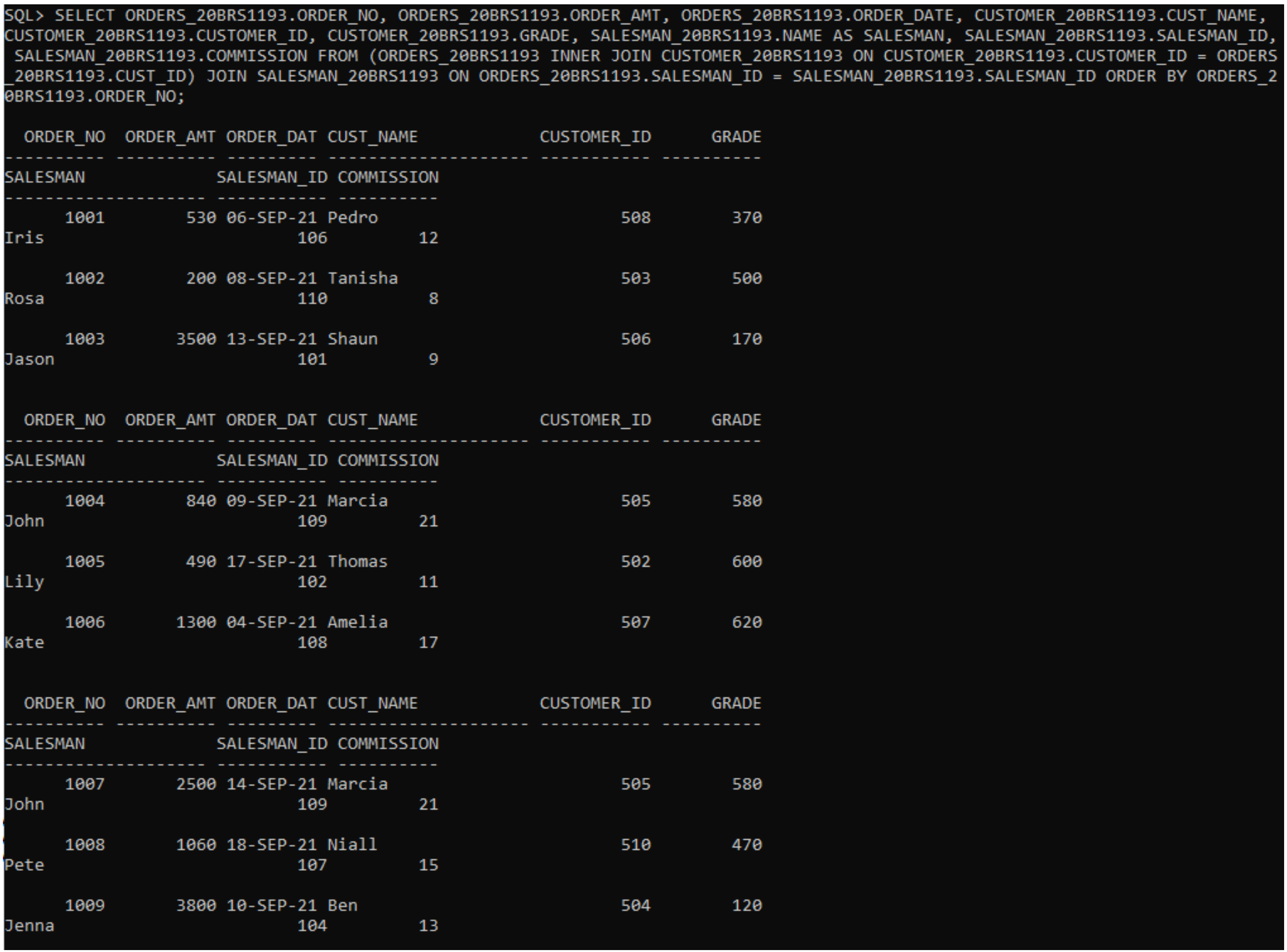
```
  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1028        460 16-SEP-21 Lauren               Iris
        12

      1029       3800 12-SEP-21 Lauren               Iris
        12

      1030       2800 12-SEP-21 Alex                 Jenna
        13


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1031       2200 25-SEP-21 Hazel                Kate
        17

      1032       3120 24-SEP-21 Jake                 John
        21

      1033       2720 07-SEP-21 Jake                 John
        21


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1034        530 16-SEP-21 Tina                 Rosa
         8

      1035       7010 12-SEP-21 Alex                 Jenna
        13

      1036       2900 11-SEP-21 Martin               Iris
        12


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1037        400 07-SEP-21 Percy                Lily
        11

      1038       1070 16-SEP-21 Jake                 John
        21

      1039       1000 12-SEP-21 Martin               Iris
        12
```



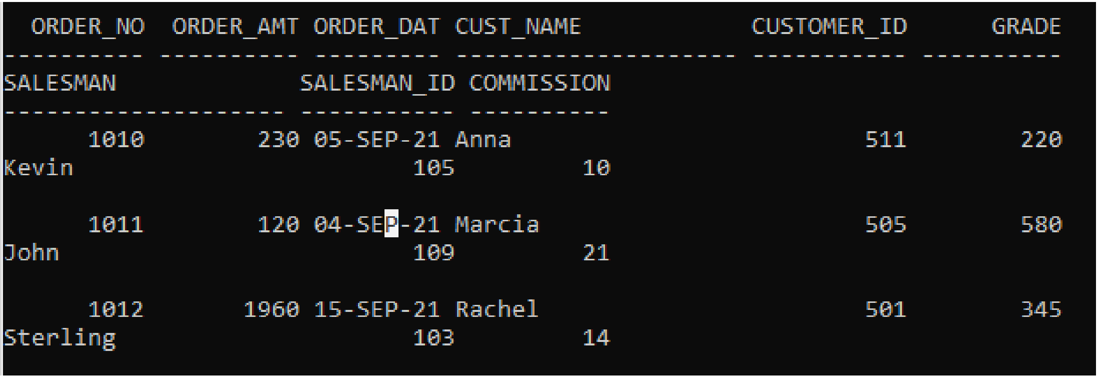
```
  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            SALESMAN
---------- ---------- --------- -------------------- --------------------
COMMISSION
----------
      1040        840 01-SEP-21 Hazel                Kate
        17

      1041        500 17-SEP-21 Percy                Lily
        11

      1042        460 12-SEP-21 Martin               Iris
        12


42 rows selected.
```

7. Make a join on the tables: salesman, customer and orders in such a form that the same column of each table will appear once and only the relational rows will come.

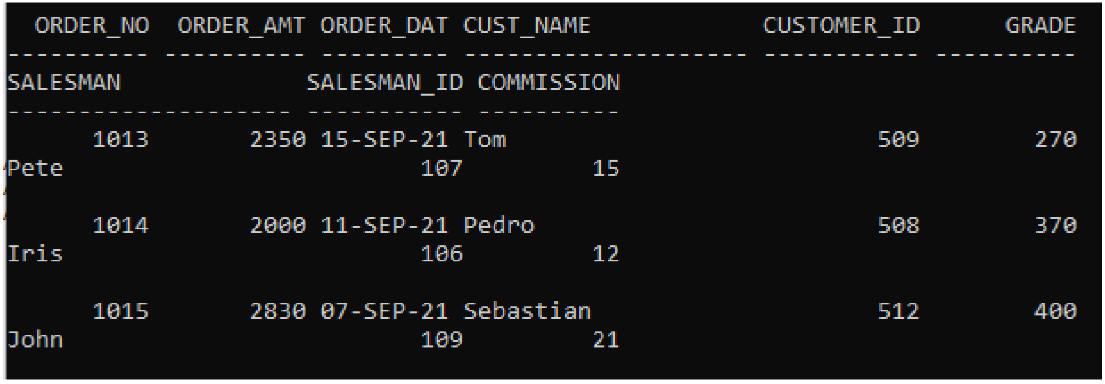
SELECT ORDERS_20BRS1193.ORDER_NO, ORDERS_20BRS1193.ORDER_AMT, ORDERS_20BRS1193.ORDER_DATE, CUSTOMER_20BRS1193.CUST_NAME, CUSTOMER_20BRS1193.CUSTOMER_ID, CUSTOMER_20BRS1193.GRADE, SALESMAN_20BRS1193.NAME AS SALESMAN, SALESMAN_20BRS1193.SALESMAN_ID, SALESMAN_20BRS1193.COMMISSION FROM (ORDERS_20BRS1193 INNER JOIN CUSTOMER_20BRS1193 ON CUSTOMER_20BRS1193.CUSTOMER_ID = ORDERS_20BRS1193.CUST_ID) JOIN SALESMAN_20BRS1193 ON ORDERS_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID ORDER BY ORDERS_20BRS1193.ORDER_NO;



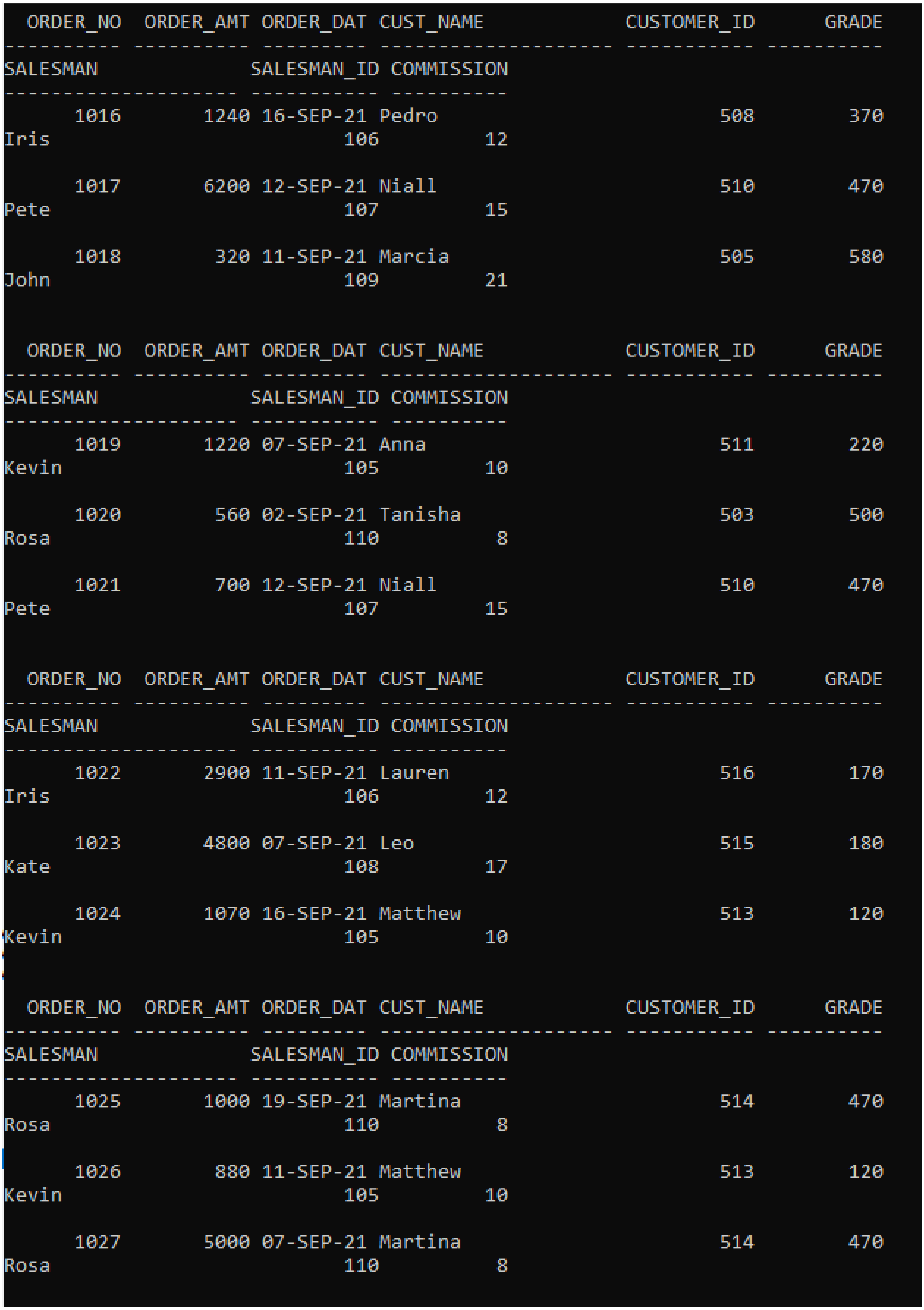
```
SQL> SELECT ORDERS_20BRS1193.ORDER_NO, ORDERS_20BRS1193.ORDER_AMT, ORDERS_20BRS1193.ORDER_DATE, CUSTOMER_20BRS1193.CUST_NAME,
CUSTOMER_20BRS1193.CUSTOMER_ID, CUSTOMER_20BRS1193.GRADE, SALESMAN_20BRS1193.NAME AS SALESMAN, SALESMAN_20BRS1193.SALESMAN_ID,
 SALESMAN_20BRS1193.COMMISSION FROM (ORDERS_20BRS1193 INNER JOIN CUSTOMER_20BRS1193 ON CUSTOMER_20BRS1193.CUSTOMER_ID = ORDERS
_20BRS1193.CUST_ID) JOIN SALESMAN_20BRS1193 ON ORDERS_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID ORDER BY ORDERS_2
0BRS1193.ORDER_NO;

  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1001        530 06-SEP-21 Pedro                        508        370
Iris                         106         12

      1002        200 08-SEP-21 Tanisha                      503        500
Rosa                         110          8

      1003       3500 13-SEP-21 Shaun                        506        170
Jason                        101          9

  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1004        840 09-SEP-21 Marcia                       505        580
John                         109         21

      1005        490 17-SEP-21 Thomas                       502        600
Lily                         102         11

      1006       1300 04-SEP-21 Amelia                       507        620
Kate                         108         17

  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1007       2500 14-SEP-21 Marcia                       505        580
John                         109         21

      1008       1060 18-SEP-21 Niall                        510        470
Pete                         107         15

      1009       3800 10-SEP-21 Ben                          504        120
Jenna                        104         13
```



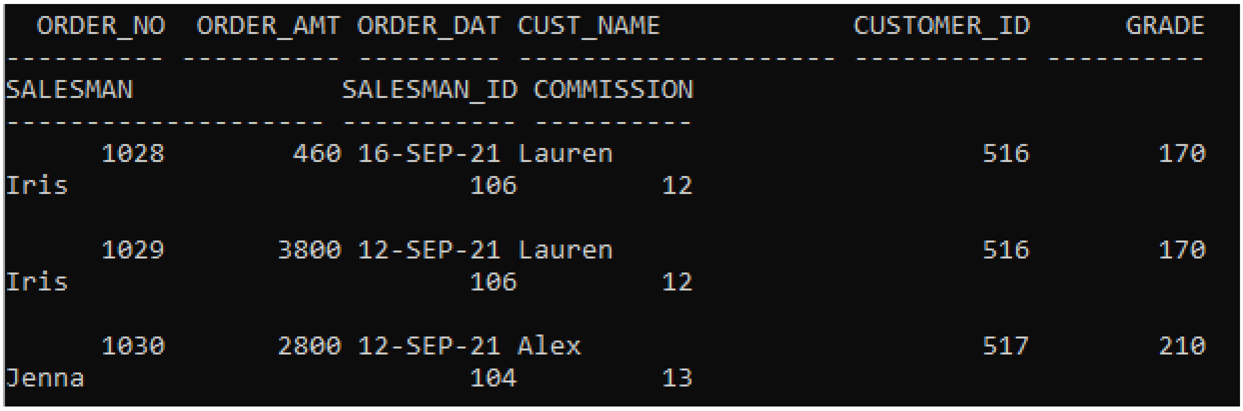
```
  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1010        230 05-SEP-21 Anna                         511        220
Kevin                        105         10

      1011        120 04-SEP-21 Marcia                       505        580
John                         109         21

      1012       1960 15-SEP-21 Rachel                       501        345
Sterling                     103         14
```



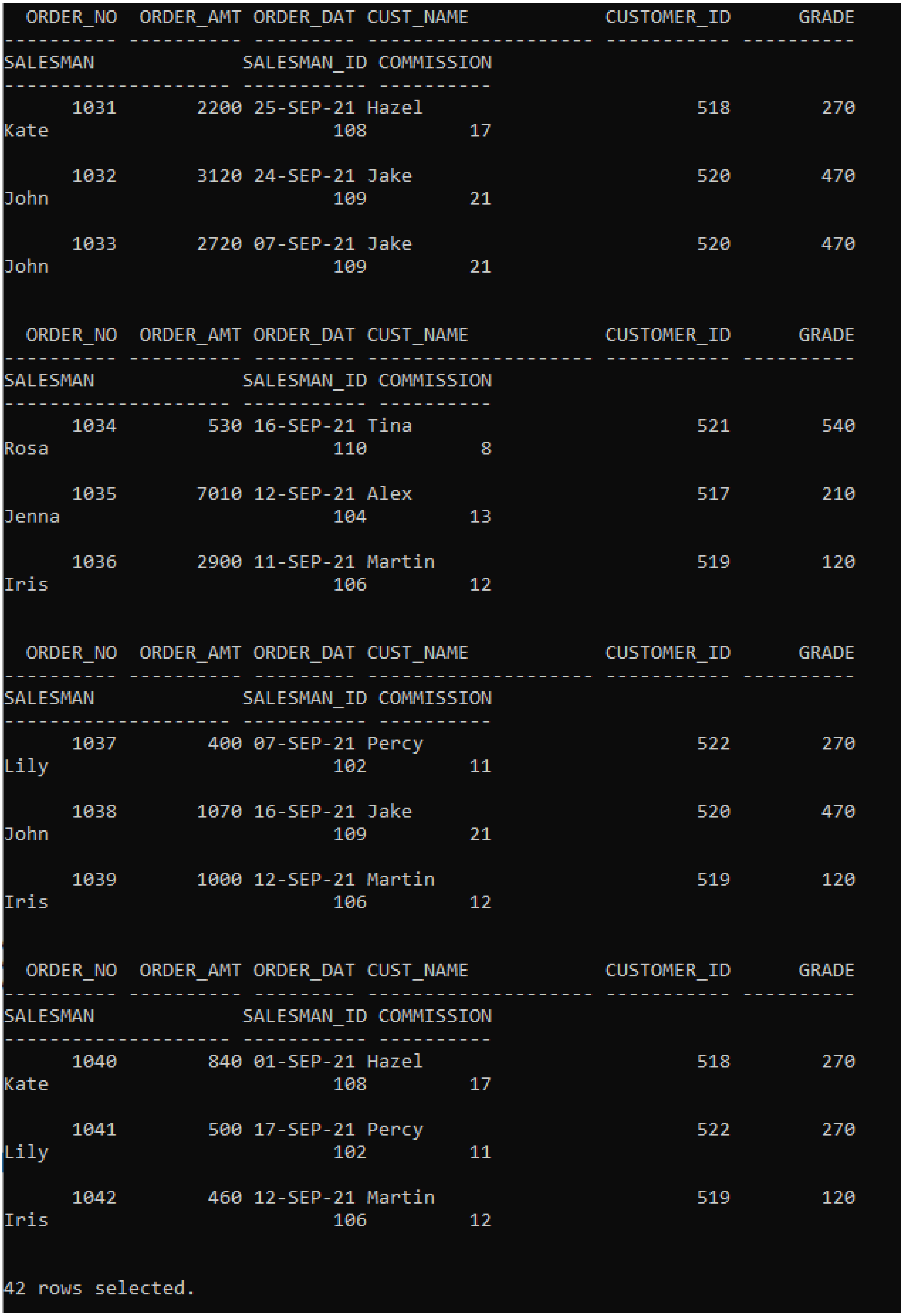
```
  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1013       2350 15-SEP-21 Tom                          509        270
Pete                         107         15

      1014       2000 11-SEP-21 Pedro                        508        370
Iris                         106         12

      1015       2830 07-SEP-21 Sebastian                    512        400
John                         109         21
```



```
  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1016       1240 16-SEP-21 Pedro                        508        370
Iris                         106         12

      1017       6200 12-SEP-21 Niall                        510        470
Pete                         107         15

      1018        320 11-SEP-21 Marcia                       505        580
John                         109         21


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1019       1220 07-SEP-21 Anna                         511        220
Kevin                        105         10

      1020        560 02-SEP-21 Tanisha                      503        500
Rosa                         110          8

      1021        700 12-SEP-21 Niall                        510        470
Pete                         107         15


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1022       2900 11-SEP-21 Lauren                       516        170
Iris                         106         12

      1023       4800 07-SEP-21 Leo                          515        180
Kate                         108         17

      1024       1070 16-SEP-21 Matthew                      513        120
Kevin                        105         10


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1025       1000 19-SEP-21 Martina                      514        470
Rosa                         110          8

      1026        880 11-SEP-21 Matthew                      513        120
Kevin                        105         10

      1027       5000 07-SEP-21 Martina                      514        470
Rosa                         110          8
```



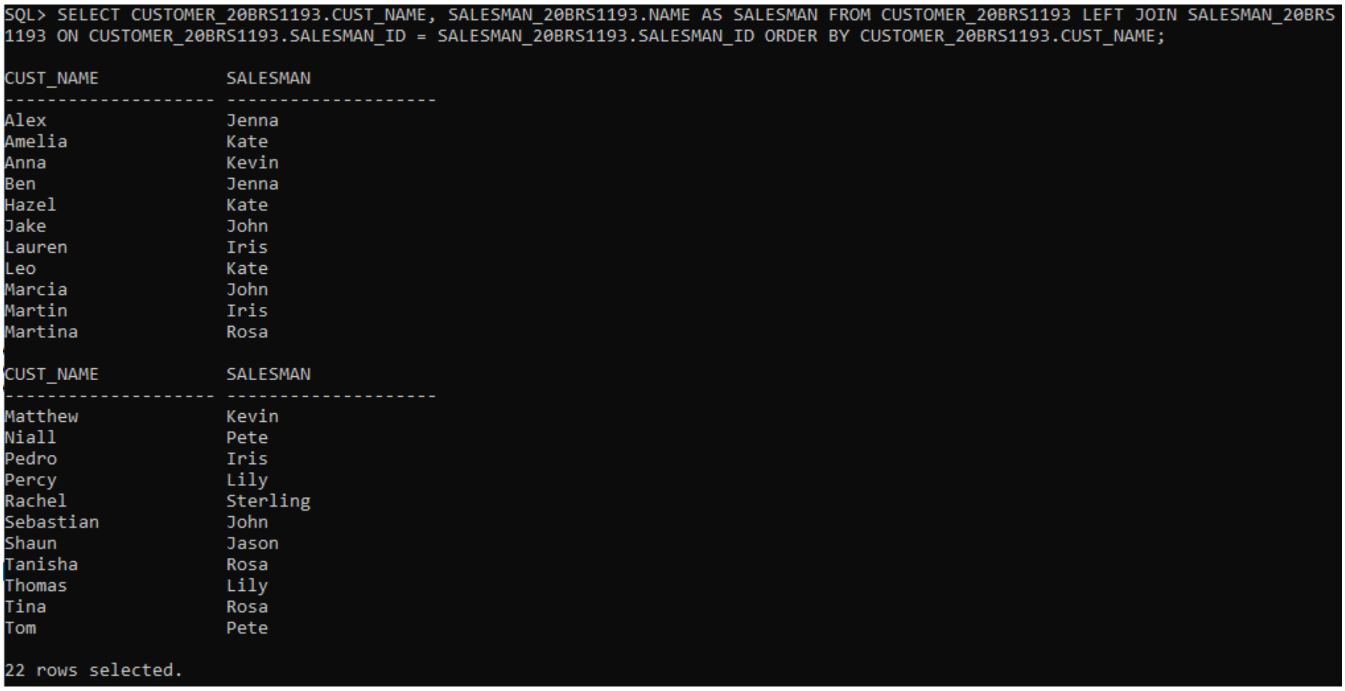
```
  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1028        460 16-SEP-21 Lauren                       516        170
Iris                         106         12

      1029       3800 12-SEP-21 Lauren                       516        170
Iris                         106         12

      1030       2800 12-SEP-21 Alex                         517        210
Jenna                        104         13
```



```
  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1031       2200 25-SEP-21 Hazel                        518        270
Kate                         108         17

      1032       3120 24-SEP-21 Jake                         520        470
John                         109         21

      1033       2720 07-SEP-21 Jake                         520        470
John                         109         21


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1034        530 16-SEP-21 Tina                         521        540
Rosa                         110          8

      1035       7010 12-SEP-21 Alex                         517        210
Jenna                        104         13

      1036       2900 11-SEP-21 Martin                       519        120
Iris                         106         12


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1037        400 07-SEP-21 Percy                        522        270
Lily                         102         11

      1038       1070 16-SEP-21 Jake                         520        470
John                         109         21

      1039       1000 12-SEP-21 Martin                       519        120
Iris                         106         12


  ORDER_NO  ORDER_AMT ORDER_DAT CUST_NAME            CUSTOMER_ID      GRADE
---------- ---------- --------- -------------------- ----------- ----------
SALESMAN             SALESMAN_ID COMMISSION
-------------------- ----------- ----------
      1040        840 01-SEP-21 Hazel                        518        270
Kate                         108         17

      1041        500 17-SEP-21 Percy                        522        270
Lily                         102         11

      1042        460 12-SEP-21 Martin                       519        120
Iris                         106         12


42 rows selected.
```

8. Make a list in ascending order for the customer who works either through a salesman or by own.

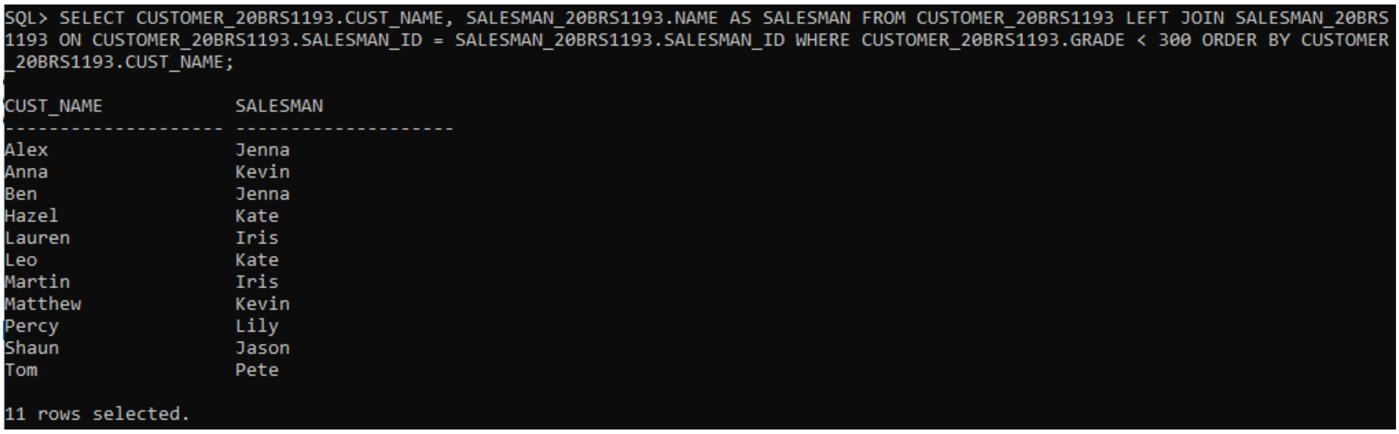
```
SELECT CUSTOMER_20BRS1193.CUST_NAME, SALESMAN_20BRS1193.NAME AS SALESMAN FROM
CUSTOMER_20BRS1193 LEFT JOIN SALESMAN_20BRS1193 ON CUSTOMER_20BRS1193.SALESMAN_ID =
SALESMAN_20BRS1193.SALESMAN_ID ORDER BY CUSTOMER_20BRS1193.CUST_NAME;
```



```
SQL> SELECT CUSTOMER_20BRS1193.CUST_NAME, SALESMAN_20BRS1193.NAME AS SALESMAN FROM CUSTOMER_20BRS1193 LEFT JOIN SALESMAN_20BRS
1193 ON CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID ORDER BY CUSTOMER_20BRS1193.CUST_NAME;

CUST_NAME            SALESMAN
-------------------- --------------------
Alex                 Jenna
Amelia               Kate
Anna                 Kevin
Ben                  Jenna
Hazel                Kate
Jake                 John
Lauren               Iris
Leo                  Kate
Marcia               John
Martin               Iris
Martina              Rosa

CUST_NAME            SALESMAN
-------------------- --------------------
Matthew              Kevin
Niall                Pete
Pedro                Iris
Percy                Lily
Rachel               Sterling
Sebastian            John
Shaun                Jason
Tanisha              Rosa
Thomas               Lily
Tina                 Rosa
Tom                  Pete

22 rows selected.
```

9. Make a list in ascending order for the customer who holds a grade less than 300 and works either through a salesman or by own.

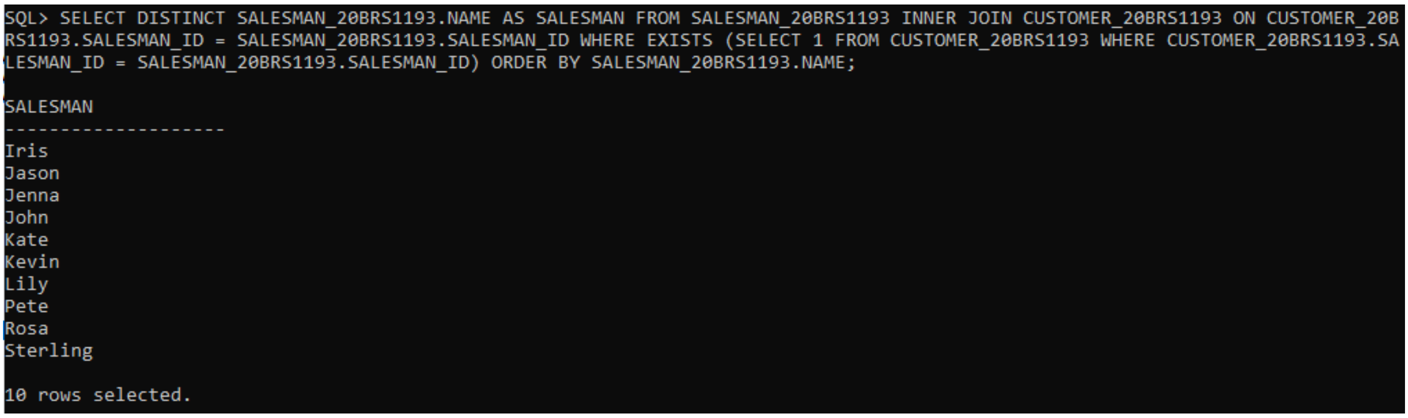
SELECT CUSTOMER_20BRS1193.CUST_NAME, SALESMAN_20BRS1193.NAME AS SALESMAN FROM CUSTOMER_20BRS1193 LEFT JOIN SALESMAN_20BRS1193 ON CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID WHERE CUSTOMER_20BRS1193.GRADE < 300 ORDER BY CUSTOMER_20BRS1193.CUST_NAME;



```
SQL> SELECT CUSTOMER_20BRS1193.CUST_NAME, SALESMAN_20BRS1193.NAME AS SALESMAN FROM CUSTOMER_20BRS1193 LEFT JOIN SALESMAN_20BRS
1193 ON CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID WHERE CUSTOMER_20BRS1193.GRADE < 300 ORDER BY CUSTOMER
_20BRS1193.CUST_NAME;

CUST_NAME            SALESMAN
-------------------- --------------------
Alex                 Jenna
Anna                 Kevin
Ben                  Jenna
Hazel                Kate
Lauren               Iris
Leo                  Kate
Martin               Iris
Matthew              Kevin
Percy                Lily
Shaun                Jason
Tom                  Pete

11 rows selected.
```

10. Make a list in ascending order for the salesmen who work either for one or more customer or not yet join under any of the customers.

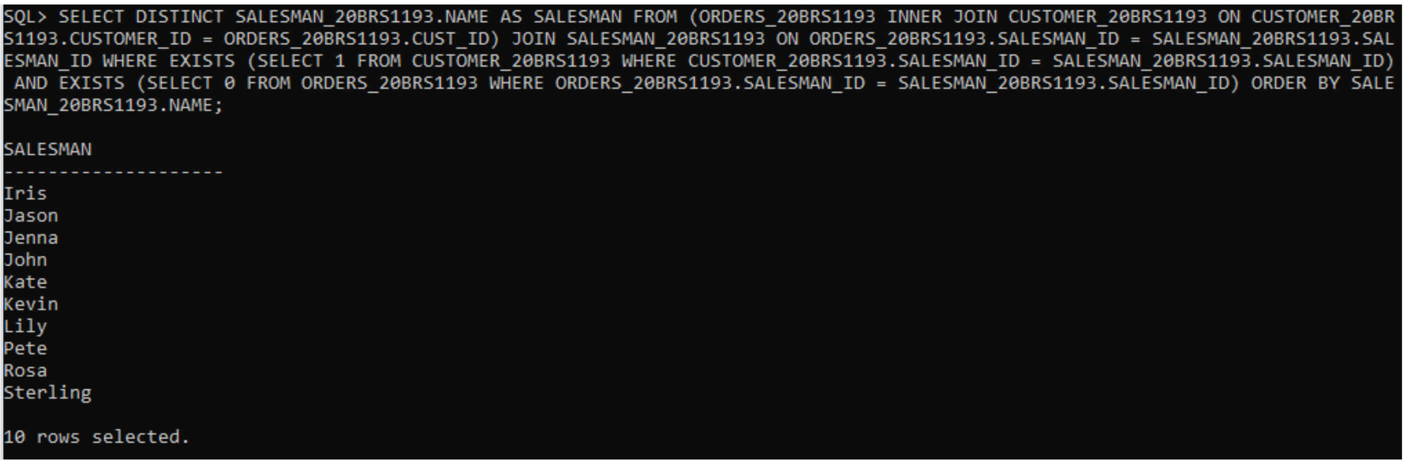
SELECT DISTINCT SALESMAN_20BRS1193.NAME AS SALESMAN FROM SALESMAN_20BRS1193 INNER JOIN CUSTOMER_20BRS1193 ON CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID WHERE EXISTS (SELECT 1 FROM CUSTOMER_20BRS1193 WHERE CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID) ORDER BY SALESMAN_20BRS1193.NAME;



```
SQL> SELECT DISTINCT SALESMAN_20BRS1193.NAME AS SALESMAN FROM SALESMAN_20BRS1193 INNER JOIN CUSTOMER_20BRS1193 ON CUSTOMER_20B
RS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID WHERE EXISTS (SELECT 1 FROM CUSTOMER_20BRS1193 WHERE CUSTOMER_20BRS1193.SA
LESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID) ORDER BY SALESMAN_20BRS1193.NAME;

SALESMAN
--------------------
Iris
Jason
Jenna
John
Kate
Kevin
Lily
Pete
Rosa
Sterling

10 rows selected.
```

11. Make a list for the salesmen who work either for one or more customer or not yet join under any of the customers who placed either one or more orders or no order to their supplier.

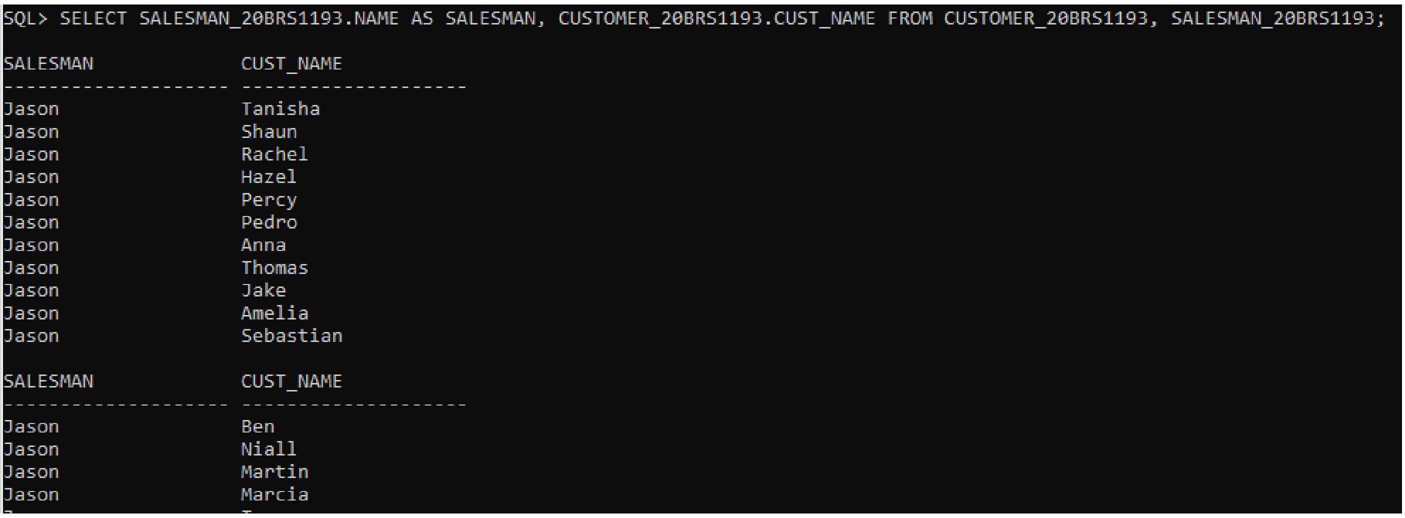
SELECT DISTINCT SALESMAN_20BRS1193.NAME AS SALESMAN FROM (ORDERS_20BRS1193 INNER JOIN CUSTOMER_20BRS1193 ON CUSTOMER_20BRS1193.CUSTOMER_ID = ORDERS_20BRS1193.CUST_ID) JOIN SALESMAN_20BRS1193 ON ORDERS_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID WHERE EXISTS (SELECT 1 FROM CUSTOMER_20BRS1193 WHERE CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID) AND EXISTS (SELECT 0 FROM ORDERS_20BRS1193 WHERE ORDERS_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID) ORDER BY SALESMAN_20BRS1193.NAME;



```
SQL> SELECT DISTINCT SALESMAN_20BRS1193.NAME AS SALESMAN FROM (ORDERS_20BRS1193 INNER JOIN CUSTOMER_20BRS1193 ON CUSTOMER_20BR
S1193.CUSTOMER_ID = ORDERS_20BRS1193.CUST_ID) JOIN SALESMAN_20BRS1193 ON ORDERS_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SAL
ESMAN_ID WHERE EXISTS (SELECT 1 FROM CUSTOMER_20BRS1193 WHERE CUSTOMER_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID)
 AND EXISTS (SELECT 0 FROM ORDERS_20BRS1193 WHERE ORDERS_20BRS1193.SALESMAN_ID = SALESMAN_20BRS1193.SALESMAN_ID) ORDER BY SALE
SMAN_20BRS1193.NAME;

SALESMAN
--------------------
Iris
Jason
Jenna
John
Kate
Kevin
Lily
Pete
Rosa
Sterling

10 rows selected.
```

12. Make a Cartesian product between salesman and customer i.e. each salesman will appear for all customers and vice versa.

SELECT SALESMAN_20BRS1193.NAME AS SALESMAN, CUSTOMER_20BRS1193.CUST_NAME FROM CUSTOMER_20BRS1193, SALESMAN_20BRS1193;



```
SQL> SELECT SALESMAN_20BRS1193.NAME AS SALESMAN, CUSTOMER_20BRS1193.CUST_NAME FROM CUSTOMER_20BRS1193, SALESMAN_20BRS1193;

SALESMAN             CUST_NAME
-------------------- --------------------
Jason                Tanisha
Jason                Shaun
Jason                Rachel
Jason                Hazel
Jason                Percy
Jason                Pedro
Jason                Anna
Jason                Thomas
Jason                Jake
Jason                Amelia
Jason                Sebastian

SALESMAN             CUST_NAME
-------------------- --------------------
Jason                Ben
Jason                Niall
Jason                Martin
Jason                Marcia
```

There are 220 rows in this list.