Queries

1. List all the columns of the Salespeople table.

```
SQL> select * from salespeople;

      SNUM SNAME                CITY                       COMM
---------- -------------------- -------------------- ----------

        23 ga                   London                       .12
        23 ga                   San Jose                     .13
      1004 asdfasd              London                       .11
        23 ga                   Barcelona                    .15
      1003 Axelrod              New York                      .1
      1005 Fran                 London                       .26
       104

8 rows selected.
```

2. List all customers with a rating of 100.

```
SQL> select cname from customers where rating=100;

CNAME
--------------------
Hoffman
Clemens
Pereira
```

3. Find all records in the Customer table with NULL values in the city column.

```
SQL> select count(*) from customers where city=NULL;

  COUNT(*)
----------
         0
```

4. Find the largest order taken by each salesperson on each date.

```
SQL> select snum,odate,max(amt) from orders group by odate,snum;

      SNUM ODATE       MAX(AMT)
---------- --------- ----------
      1001 06-OCT-96    9891.88
      1007 03-OCT-96    1098.16
      1003 04-OCT-96    1713.23
      1004 03-OCT-96     1900.1
      1001 03-OCT-96     767.19
      1002 03-OCT-96    5160.45
      1002 06-OCT-96    1309.95
      1001 05-OCT-96       4723

8 rows selected.
```

5. Arrange the Orders table by descending customer number.

```
SQL> select * from orders order by cnum desc;

      ONUM        AMT ODATE           CNUM       SNUM
```

```
---------- ---------- --------- ---------- ----------
      3001      18.69 03-OCT-96       2008       1007
      3006    1098.16 03-OCT-96       2008       1007
      3002     1900.1 03-OCT-96       2007       1004
      3011    9891.88 06-OCT-96       2006       1001
      3008       4723 05-OCT-96       2006       1001
      3010    1309.95 06-OCT-96       2004       1002
      3005    5160.45 03-OCT-96       2003       1002
      3009    1713.23 04-OCT-96       2002       1003
      3007      75.75 04-OCT-96       2002       1003
      3003     767.19 03-OCT-96       2001       1001

10 rows selected.
```

6. Find which salespeople currently have orders in the Orders table.

```
SQL> select sname from salespeople
  2  where snum in(select snum from orders);

SNAME
--------------------
asdfasd
Axelrod
```

7.List names of all customers matched with the salespeople serving them

```
SQL> select cname from customers
  2  where snum in(select snum from salespeople);

CNAME
--------------------
Pereira
Giovani
```

8. Find the names and numbers of all salespeople who had more than one customer.

```
SQL> select sname,snum from salespeople
  2  where snum in(select snum from customers group by snum having count(snum)>1
);

no rows selected
```

9. Count the orders of each of the salespeople and output the results in descend ing order.

```
SQL> select count(onum),snum from orders group by snum order by count(onum) desc
;

COUNT(ONUM)       SNUM
----------- ----------
          3       1001
          2       1003
          2       1002
          2       1007
          1       1004
```

10. List the Customer table if and only if one or more of the customers in the C
ustomer table are located in San Jose.

```
SQL> select * from customers
  2  where city in(select city from customers
  3  where city='San Jose'
  4  group by city
  5  having count(city)>1);

      CNUM CNAME               CITY                    RATING       SNUM
---------- ------------------- -------------------- ---------- ----------
      2008 Cisneros            San Jose                    300       1007
      2003 Liu                 San Jose                    200       1002
```

11. Match salespeople to customers according to what city they lived in.

```
SQL> select sname,cname,s.city from salespeople s,customers c where s.city=c.cit
y;

SNAME                CNAME                CITY
-------------------- -------------------- --------------------
Fran                 Hoffman              London
motika               Hoffman              London
peel                 Hoffman              London
serres               Liu                  San Jose
Fran                 Clemens              London
motika               Clemens              London
peel                 Clemens              London
serres               Cisneros             San Jose

8 rows selected.
```

12. Find the largest order taken by each salesperson.

```
SQL> select max(amt),snum from orders group by snum;

  MAX(AMT)       SNUM
---------- ----------
   1713.23       1003
   9891.88       1001
   5160.45       1002
   1098.16       1007
    1900.1       1004
```

13. Find customers in San Jose who have a rating above 200.

```
SQL> select * from customers where rating>200;

      CNUM CNAME               CITY                    RATING       SNUM
---------- ------------------- -------------------- ---------- ----------
      2004 Grass               Berlin                      300       1002
      2008 Cisneros            San Jose                    300       1007
```

14. List the names and commissions of all salespeople in London.

```
SQL> select sname,comm from salespeople where city='London';
```

```
SNAME                     COMM
------------------- ----------
ga                         .12
asdfasd                    .11
Fran                       .26
```

15. List all the orders of salesperson Motika from the Orders table.

```
SQL> select onum from orders where snum=(select snum from salespeople where snam
e='Motika');

      ONUM
----------
      3002
```

16. Find all customers with orders on October 3.

```
SQL> select * from customers where snum in(select snum from orders where odate='
03-OCT-96');

      CNUM CNAME               CITY                    RATING       SNUM
---------- ------------------- ------------------- ---------- ----------
      2008 Cisneros            San Jose                   300       1007
      2006 Clemens             London                     100       1001
      2001 Hoffman             London                     100       1001
      2007 Pereira             Rome                       100       1004
      2004 Grass               Berlin                     300       1002
      2003 Liu                 San Jose                   200       1002

6 rows selected.
```

17. Give the sums of the amounts from the Orders table, grouped by date, elimina
ting all those dates where the SUM was not at least 2000.00 above the MAX amount
.

```
SQL> select odate,sum(amt) from orders group by odate;

ODATE       SUM(AMT)
--------- ----------
05-OCT-96       4723
03-OCT-96    8944.59
04-OCT-96    1788.98
06-OCT-96   11201.83
```

18. Select all orders that had amounts that were greater than at least one of th
e orders from October 6.

```
SQL> select * from orders where amt>any(select amt from orders where odate='06-o
ct-96');

      ONUM        AMT ODATE           CNUM       SNUM
---------- ---------- --------- ---------- ----------
      3011    9891.88 06-OCT-96       2006       1001
      3005    5160.45 03-OCT-96       2003       1002
      3008       4723 05-OCT-96       2006       1001
      3002     1900.1 03-OCT-96       2007       1004
```

```
      3009    1713.23 04-OCT-96       2002       1003
```

19. Write a query that uses the EXISTS operator to extract all salespeople who h
ave customers with a rating of 300.

```
SQL> select * from salespeople s where exists(select * from customers c where c.
snum=s.snum and c.rating=300);

      SNUM SNAME                CITY                        COMM
---------- -------------------- -------------------- ----------
      1002 serres               San Jose                     .13
```

20. Find all pairs of customers having the same rating.

```
SQL> select * from customers order by rating;

      CNUM CNAME                CITY                      RATING       SNUM
---------- -------------------- -------------------- ---------- ----------
      2001 Hoffman              London                       100       1001
      2007 Pereira              Rome                         100       1004
      2006 Clemens              London                       100       1001
      2002 Giovani              Rome                         200       1003
      2003 Liu                  San Jose                     200       1002
      2008 Cisneros             San Jose                     300       1007
      2004 Grass                Berlin                       300       1002

7 rows selected.
```

21. Find all customers whose CNUM is 1000 above the SNUM of Serres.

```
SQL> select cnum,cname from customers where cnum>(select snum from salespeople w
here sname='serres');

      CNUM CNAME
---------- --------------------
      2001 Hoffman
      2002 Giovani
      2003 Liu
      2004 Grass
      2006 Clemens
      2008 Cisneros
      2007 Pereira

7 rows selected
```

22. Give the salespeople s commissions as percentages instead of decimal numbers.

```
SQL> select comm*100  from salespeople;

  COMM*100
----------

        12
        13
        11
        15
        10
        26


8 rows selected.
```

23. Find the largest order taken by each salesperson on each date, eliminating t

hose MAX orders which are less than $3000.00 in value.

```
SQL> select snum,odate,max(amt) from orders group by odate,snum having max(amt)>
3000;

      SNUM ODATE       MAX(AMT)
---------- --------- ----------
      1001 06-OCT-96    9891.88
      1002 03-OCT-96    5160.45
      1001 05-OCT-96       4723
```

24. List the largest orders for October 3, for each salesperson.

```
SQL> select max(amt),snum,odate from orders group by (snum,odate) ,snum having o
date='03-oct-96';

  MAX(AMT)       SNUM ODATE
---------- ---------- ---------
    1900.1       1004 03-OCT-96
   1098.16       1007 03-OCT-96
   5160.45       1002 03-OCT-96
    767.19       1001 03-OCT-96
```

25. Find all customers located in cities where Serres (SNUM 1002) has customers.

```
SQL> select cname,city from customers where city in(select city from  salespeopl
e where snum=1002);

CNAME                CITY
-------------------- --------------------
Cisneros             San Jose
Liu                  San Jose
```

26. Select all customers with a rating above 200.00.

```
SQL> select * from customers where rating>200
  2  ;

      CNUM CNAME                CITY                      RATING       SNUM
---------- -------------------- -------------------- ---------- ----------
      2004 Grass                Berlin                       300       1002
      2008 Cisneros             San Jose                     300       1007
```

27. Count the number of salespeople currently listing orders in the Orders table
.

```
SQL> select count(distinct snum) from orders;

COUNT(DISTINCTSNUM)
-------------------
                  5
```

28. Write a query that produces all customers serviced by salespeople with a com
mission above 12%. Output the customer s name and the salesperson s rate of commissi
on.

```
SQL> select c.cname,s.comm from customers c join salespeople s on c.snum=s.snum
and s.comm>.12;

CNAME                     COMM
-------------------- ----------
Liu                         .13
```

29. Find salespeople who have multiple customers.

```
SQL> select snum,count(snum) from customers group by snum having count(snum)>1;

      SNUM COUNT(SNUM)
---------- -----------
      1001           2
      1002           2
```

30. Find salespeople with customers located in their city.

```
SQL> select s.sname,c.cname,s.city from salespeople s join customers c on s.city
=c.city order by city;

SNAME              CNAME              CITY
------------------ ------------------ --------------------
peel               Clemens            London
motika             Hoffman            London
peel               Hoffman            London
Fran               Hoffman            London
Fran               Clemens            London
motika             Clemens            London
serres             Cisneros           San Jose
serres             Liu                San Jose

8 rows selected.
```

31. Find all salespeople whose name starts with P and the fourth character is l .

```
SQL> select sname from salespeople where sname like 'p__l%';

SNAME
--------------------
peel
```

32. Write a query that uses a subquery to obtain all orders for the customer nam ed Cisneros. Assume you do not know his customer number.

```
SQL> select onum from orders
  2  where snum=(select snum from customers where cname='Cisneros');

      ONUM
----------
      3001
      3006
```

33. Find the largest orders for Serres and Rifkin.

```
SQL> select snum,max(amt) from orders group by snum
  2  having snum in(select snum from salespeople1 where sname='Serres' or sname=
'Rifkin');

      SNUM   MAX(AMT)
```

```
---------- ----------
      1002    5160.45
      1007    1098.16
```

34.Extract the Salespeople table in the following order : SNUM, SNAME, COMMISSIO N, CITY

```
SQL> select snum,sname,comm,city from salespeople1;

      SNUM SNAME                     COMM CITY
---------- -------------------- ---------- --------------------
      1001 Peel                         12 London
      1002 Serres                       13 San Jose
      1004 Motika                       11 London
      1007 Rifkin                       15 Barcelona
      1003 AxelRod                      10 New York
      1005 Fran                         26 London

6 rows selected.
```

35.Select all customers whose names fall in between A and G alphabetical range.

```
SQL> select cname from customers where cname between 'A' and 'G' order by cname
asc;

CNAME
--------------------
Cisneros
Clemens
```

36.Select all the possible combinations of customers that you can assign

```
SQL> select c.cname,s.sname from customers c join salespeople s on c.snum=s.snum
;

CNAME                SNAME
-------------------- --------------------
Clemens              peel
Hoffman              peel
Grass                serres
Liu                  serres
Pereira              motika
Giovani              Axelrod

6 rows selected.
```

37. Select all orders that are greater than the average for October 4.

```
SQL> select amt from orders
  2  where amt > (select avg(amt) from orders where odate in(select odate from o
rders group by odate having odate='04-OCT-96'));

       AMT
----------
    1900.1
   5160.45
   1098.16
   1713.23
      4723
   1309.95
   9891.88

7 rows selected.
```

38.Write a select command using a corelated subquery that selects the names and numbers of all customers with ratings equal to the maximum for their city

```
SQL> select cnum,cname,rating from customers where rating in(select max(rating)
from customers group by city);

      CNUM CNAME                    RATING
---------- -------------------- ----------
      2007 Pereira                     100
      2006 Clemens                     100
      2001 Hoffman                     100
      2008 Cisneros                    300
      2004 Grass                       300
      2003 Liu                         200
      2002 Giovani                     200

7 rows selected.
```

39.Write a query that totals the orders for each day and places the results in descending order

```
SQL> select sum(amt) from orders group by odate order by sum(amt) desc;

  SUM(AMT)
----------
  11201.83
   8944.59
      4723
   1788.98
```

40.Write a select command that produces the rating followed by the name of each customer in San Jose

```
SQL> select rating,cname from customers where city in(select city from salespeop
le1 where city='San Jose');

    RATING CNAME
---------- --------------------
       300 Cisneros
       200 Liu
```

41.Find all orders with amounts smaller than any amount for a customer in San Jo se

```
SQL> select onum,amt from orders
  2  where amt <(select max(amt) from orders
  3  where amt in(select orders.amt from customers,orders where customers.cnum=o
rders.cnum and customers.city='San Jose'));

      ONUM        AMT
---------- ----------
      3001      18.69
      3003     767.19
      3002     1900.1
      3006    1098.16
      3009    1713.23
      3007      75.75
      3008       4723
      3010    1309.95

8 rows selected.
```

42.Find all orders with above average amounts for their customers

```
SQL> select onum from orders  where amt >(select avg(amt) from orders);

      ONUM
----------
      3005
      3008
      3011
```

43. Write a query that selects the highest rating in each city.

```
SQL> select city,max(rating) from customers  group by city;
```

```
CITY                 MAX(RATING)
-------------------- -----------
London                       100
Berlin                       300
Rome                         200
San Jose                     300
```

44. Write a query that calculates the amount of the salesperson s commission on ea ch order by a customer with a rating above 100.00.

```
SQL> select sname,comm*amt from salespeople1,orders  where snum in(select snum f
rom customers where rating > 100);

SNAME                COMM*AMT
-------------------- ----------
AxelRod                      10
Serres                       13
Rifkin                       15
```

45. Count the customers with ratings above San Jose s average.

```
SQL> select count(city) from customers  where rating >(select avg(rating) from c
ustomers where city='San Jose');

COUNT(CITY)
-----------
          2
```

46. Write a query that produces all pairs of salespeople with themselves as wel l as duplicate rows with the order reversed.

```
SQL> select cnum,cname,rating from customers where rating in(select max(ratin
from customers group by city);

      CNUM CNAME                    RATING
---------- -------------------- ----------
      2007 Pereira                     100
      2006 Clemens                     100
      2001 Hoffman                     100
      2008 Cisneros                    300
      2004 Grass                       300
      2003 Liu                         200
      2002 Giovani                     200

7 rows selected.

SQL> select s.sname,d.sname from salespeople s,salespeople d order by s.sname
sname desc;

SNAME                SNAME
-------------------- --------------------
Axelrod
Axelrod
```

```
Axelrod              serres
Axelrod              peel
Axelrod              motika
Axelrod              ga
Axelrod              Fran
Axelrod              Axelrod
Fran
Fran
Fran                 serres

SNAME                SNAME
-------------------- --------------------
Fran                 peel
Fran                 motika
Fran                 ga
Fran                 Fran
Fran                 Axelrod
ga
ga
ga                   serres
ga                   peel
ga                   motika
ga                   ga

SNAME                SNAME
-------------------- --------------------
ga                   Fran
ga                   Axelrod
motika
motika
motika               serres
motika               peel
motika               motika
motika               ga
motika               Fran
motika               Axelrod
peel

SNAME                SNAME
-------------------- --------------------
peel
peel                 serres
peel                 peel
peel                 motika
peel                 ga
peel                 Fran
peel                 Axelrod
serres
serres
serres               serres
serres               peel

SNAME                SNAME
-------------------- --------------------
serres               motika
serres               ga
serres               Fran
serres               Axelrod
```

```
                    serres
                    serres
                    peel

SNAME               SNAME
------------------- -------------------
                    peel
                    motika
                    motika
                    ga
                    ga
                    Fran
                    Fran
                    Axelrod
                    Axelrod

64 rows selected.
```

47.Find all salespeople that are located in either Barcelona or London.

```
SQL> select sname from salespeople1 where city='Barcelona' or city='London';

SNAME
--------------------
Peel
Motika
Rifkin
Fran
```

48.Find all salespeople with only one customer.

```
SQL> select snum,sname from salespeople1 where snum in (select snum from custome
rs where cnum in(select cnum from orders having count(cnum)=1 group by cnum));

      SNUM SNAME
---------- --------------------
      1001 Peel
      1002 Serres
      1004 Motika
```

49.Write a query that joins the Customer table to itself to find all pairs of cu
stomers served by a single salesperson.

```
SQL> select c1.cname,c2.cname from customers c,customers c2 where c.snum=c2.snum
 and c.cname!=c2.cname;
```

50.1. Write a query that will give you all orders for more than $1000.00

```
SQL> select onum from orders where amt>1000;

      ONUM
----------
      3002
      3005
      3006
      3009
      3008
      3010
      3011

7 rows selected.
```

51.Write a query that lists each order number followed by the name of the custom er who made that order.

```
SQL> select orders.onum,customers.cname from customers,orders where customers.cn
um=orders.cnum;

      ONUM CNAME
---------- --------------------
      3001 Cisneros
      3003 Hoffman
      3002 Pereira
      3005 Liu
      3006 Cisneros
      3009 Giovani
      3007 Giovani
      3008 Clemens
      3010 Grass
      3011 Clemens

10 rows selected.
```

52.Write 2 queries that select all salespeople (by name and number) who have cus tomers in their cities who they do not service, one using a join and one a corel ated subquery. Which soluti

```
SQL> select c.snum,s.snum from salespeople s,customers c where s.city=c.city gro
up by c.snum,s.snum having c.snum!=s.snum;

      SNUM       SNUM
---------- ----------
      1007       1002
      1001       1004
      1001       1005
```

53.1. Write a query that selects all customers whose ratings are equal to or gre
ater than ANY (in the SQL sense) of Serres ?

```
SQL> select cname from customers where rating >= ANY  (select rating from custom
ers where snum =(select snum from salespeople1 where sname='Serres'));

CNAME
--------------------
Grass
Cisneros
Liu
Giovani
```

54.Write 2 queries that will produce all orders taken on October 3 or October 4

```
SQL> select onum from orders  where odate='03-oct-96' or odate='04-oct-96';

      ONUM
----------
      3001
      3003
      3002
      3005
      3006
      3009
      3007

7 rows selected.
```

55.1. Write a query that produces all pairs of orders by a given customer. Name
that customer and eliminate duplicates.

```
SQL> select c.cname,o.onum from customers c,orders o where c.cnum=o.cnum group b
y c.cname,o.onum;

CNAME                     ONUM
-------------------- ----------
Hoffman                   3003
Clemens                   3011
Liu                       3005
Cisneros                  3001
Giovani                   3007
Pereira                   3002
Cisneros                  3006
Giovani                   3009
Grass                     3010
Clemens                   3008

10 rows selected.
```

56.Find only those customers whose ratings are higher than every customer in Rom
e.

```
SQL> select cname from customers  where rating >(select max(rating) from custome
rs where city='Rome');

CNAME
--------------------
Grass
Cisneros
```

57. Write a query on the Customers table whose output will exclude all customers with a rating <= 100.00, unless they are located in Rome.

```
SQL> select cname from customers  where city='Rome' intersect  select cname from
 customers where rating>=100;

CNAME
--------------------
Giovani
Pereira
```

58.Find all rows from the Customers table for which the salesperson number is 10
0

```
SQL> select * from customers where snum=1001;

      CNUM CNAME                CITY                     RATING       SNUM
---------- -------------------- -------------------- ---------- ----------
      2001 Hoffman              London                      100       1001
      2006 Clemens              London                      100       1001
```

59.Find the total amount in Orders for each salesperson for whom this total is g
reater than the amount of the largest order in the table.

```
SQL> select sum(amt),snum from orders having sum(amt)>max(amt) group by snum;

  SUM(AMT)       SNUM
---------- ----------
   1788.98       1003
  15382.07       1001
    6470.4       1002
   1116.85       1007
```

60.Write a query that selects all orders save those with zeroes or NULLs in the amount field.

```
SQL> select onum from orders where amt is NULL or amt=0;
```

no rows selected

61.Produce all combinations of salespeople and customer names such that the form
er precedes the latter alphabetically, and the latter has a rating of less than
200.

```
SQL> select s.sname,c.cname,c.rating from customers c,salespople s where c.ratin
g<200 group by s.sname,c.cname,c.rating having c.cname>=s.sname;
```

62.List all Salespeople s names and the Commission they have earned.

```
SQL> select salespeople1.sname,sum(comm*amt*0.01) from salespeople1,orders where
 salespeople1.snum=orders.snum group by sname;

SNAME                SUM(COMM*AMT*0.01)
-------------------- ------------------
Peel                           1845.8484
Motika                           209.011
Serres                           841.152
AxelRod                          178.898
Rifkin                          167.5275
```

63. Write a query that produces the names and cities of all customers with the s
ame rating as Hoffman. Write the query using Hoffman s CNUM rather than his rating
, so that it would still be usable if his rating changed.

```
SQL> select cname,city from customers  where rating in(select rating from custom
ers where snum = (select snum from customers where cname='Hoffman'));

CNAME                CITY
-------------------- --------------------
Pereira              Rome
Clemens              London
Hoffman              London
```

64.Find all salespeople for whom there are customers that follow them in alphabe
tical order.

```
SQL> select s.sname,c.cname from customers c,salespeople1 s  where s.snum=c.snum
 group by s.sname,c.cname having c.cname >= s.sname;

SNAME                CNAME
-------------------- --------------------
AxelRod              Giovani
Motika               Pereira
```

65.Write a query that produces the names and ratings of all customers of all who have above average orders

```
SQL> select cname,rating from customers  where rating > (select avg(rating) from
 customers);

CNAME                    RATING
-------------------- ----------
Giovani                     200
Liu                         200
Grass                       300
Cisneros                    300
```

66.Find the SUM of all purchases from the Orders table.

```
SQL> select sum(amt) from orders;

  SUM(AMT)
----------
   26658.4
```

67.Write a SELECT command that produces the order number, amount and date for al l rows in the order table.

```
SQL> select onum,amt,odate from orders;

      ONUM        AMT ODATE
---------- ---------- ---------
      3001      18.69 03-OCT-96
      3003     767.19 03-OCT-96
      3002     1900.1 03-OCT-96
      3005    5160.45 03-OCT-96
      3006    1098.16 03-OCT-96
      3009    1713.23 04-OCT-96
      3007      75.75 04-OCT-96
      3008       4723 05-OCT-96
      3010    1309.95 06-OCT-96
      3011    9891.88 06-OCT-96

10 rows selected.
```

68.Count the number of nonNULL rating fields in the Customers table (including r epeats).

```
SQL> select count(rating) from customers;

COUNT(RATING)
-------------
            7
```

69.Write a query that gives the names of both the salesperson and the customer f
or each order after the order number.

```
SQL> select cname,sname,odate from salespeople1,customers,orders where salespeop
le1.snum=orders.snum and customers.cnum=orders.cnum;

CNAME                SNAME                ODATE
-------------------- -------------------- ---------
Hoffman              Peel                 03-OCT-96
Giovani              AxelRod              04-OCT-96
Giovani              AxelRod              04-OCT-96
Liu                  Serres               03-OCT-96
Grass                Serres               06-OCT-96
Clemens              Peel                 06-OCT-96
Clemens              Peel                 05-OCT-96
Cisneros             Rifkin               03-OCT-96
Cisneros             Rifkin               03-OCT-96
Pereira              Motika               03-OCT-96

10 rows selected.
```

70.List the commissions of all salespeople servicing customers in London.

```
SQL> select sname from salespeople1  where snum in(select snum from customers wh
ere city='London');

SNAME
--------------------
Peel
```

71.Write a query using ANY or ALL that will find all salespeople who have no cus
tomers located in their city.

```
SQL> select snum,sname from salespeople1 where sname not in(select sname from sa
lespeople1 where city = any (select city from customers));

      SNUM SNAME
---------- --------------------
      1007 Rifkin
      1003 AxelRod
```

72.Write a query using the EXISTS operator that selects all salespeople with cus
tomers located in their cities who are not assigned to them.

```
SQL> select s.sname,city from salespeople s where exists(select * from customers
 c where c.snum!=s.snum and c.city=s.city);

SNAME                CITY
-------------------- --------------------
Fran                 London
motika               London
```

```
serres               San Jose
```

73.Write a query that selects all customers serviced by Peel or Motika. (Hint : The SNUM field relates the two tables to one another.

```
SQL> select cname from customers  where snum in (select snum from salespeople1 w
here sname='Motika' or sname='Peel');

CNAME
--------------------
Clemens
Hoffman
Pereira
```

74. Count the number of salespeople registering orders for each day. (If a sales person has more than one order on a given day, he or she should be counted only once.)

```
SQL> select count(distinct snum),odate from orders group by odate;

COUNT(DISTINCTSNUM) ODATE
------------------- ---------
                  1 05-OCT-96
                  2 06-OCT-96
                  4 03-OCT-96
                  1 04-OCT-96
```

75.Find all orders attributed to salespeople in London.

```
SQL> select onum from orders where snum in (select snum from salespeople1 where
city='London');

      ONUM
----------
      3011
      3008
      3003
      3002
```

76.Find all orders by customers not located in the same cities as their salespeo ple.

```
SQL> select onum from orders where cnum in(select distinct cnum from customers,s
alespeople1 where customers.city not in(select salespeople1.city from salespeopl
e1));

      ONUM
```

```
----------
      3002
      3007
      3009
      3010
```

77.Find all salespeople who have customers with more than one current order

```
SQL> select distinct snum from orders where cnum in
  2  (select cnum from orders
  3  group by cnum
  4  having count(cnum)>1);

      SNUM
----------
      1003
      1001
      1007
```

78.Write a query that extracts from the Customers table every customer assigned to a salesperson who currently has at least one other customer (besides the cust omer being selected) with orders in the Orders table.

```
SQL> select snum from customers
  2  group by snum
  3  having count(snum)>1;

      SNUM
----------
      1001
      1002
```

79.Write a query that selects all customers whose names begin with C .

```
SQL> select cname from customers
  2  where cname like 'C%';

CNAME
--------------------
Clemens
Cisneros
```

80.Write a query on the Customers table that will find the highest rating in eac h city. Put the output in this form : for the city (city) the highest rating is : (rating).

```
SQL> select city,max(rating) from customers
  2  group by city;
```

```
CITY                 MAX(RATING)
-------------------- -----------
London                       100
Berlin                       300
Rome                         200
San Jose                     300
```

81.Write a query that will produce the SNUM values of all salespeople with order s currently in the Orders table (without any repeats).

```
SQL> select distinct snum from orders;

      SNUM
----------
      1003
      1001
      1002
      1007
      1004
```

82.Write a query that lists customers in descending order of rating. Output the rating field first, followed by the customer s names and numbers.

```
SQL> select rating,cname,cnum from customers
  2  order by rating desc;

    RATING CNAME                      CNUM
---------- -------------------- ----------
       300 Grass                      2004
       300 Cisneros                   2008
       200 Liu                        2003
       200 Giovani                    2002
       100 Pereira                    2007
       100 Clemens                    2006
       100 Hoffman                    2001

7 rows selected.
```

83.Find the average commission for salespeople in London.

```
SQL> select avg(comm*amt*0.01) from salespeople1,orders where city='London';

AVG(COMM*AMT*0.01)
------------------
        435.420533
```

84.Find all orders credited to the same salesperson who services Hoffman (CNUM 2001).

```
SQL> select onum from orders  where snum in(select snum from customers where cna
me='Hoffman');

      ONUM
----------
      3011
      3008
      3003
```

85.Find all salespeople whose commission is in between 0.10 and 0.12 (both inclusive).

```
SQL> select sname from salespeople1  where comm>=10 and comm<=12;

SNAME
--------------------
Peel
Motika
AxelRod
```

86.Write a query that will give you the names and cities of all salespeople in London with a commission above 0.10.

```
SQL> select sname,city from salespeople1 where comm>10 and city='London';

SNAME                CITY
-------------------- --------------------
Peel                 London
Motika               London
Fran                 London
```

87.What will be the output from the following query?
SELECT * FROM ORDERS where (amt < 1000 OR NOT (odate = 10/03/1996 AND cnum > 2003));

```
SQL> select * from orders where(amt<1000 or not(odate='03-oct-96' and cnum>2003)
);

      ONUM        AMT ODATE           CNUM       SNUM
---------- ---------- --------- ---------- ----------
      3001      18.69 03-OCT-96       2008       1007
      3003     767.19 03-OCT-96       2001       1001
      3005    5160.45 03-OCT-96       2003       1002
      3009    1713.23 04-OCT-96       2002       1003
      3007      75.75 04-OCT-96       2002       1003
      3008       4723 05-OCT-96       2006       1001
      3010    1309.95 06-OCT-96       2004       1002
      3011    9891.88 06-OCT-96       2006       1001
```

```
8 rows selected.
```

88.Write a query that selects each customer s smallest order.

```
SQL> select cnum,min(amt) from orders
  2  group by cnum;

      CNUM   MIN(AMT)
---------- ----------
      2001     767.19
      2006       4723
      2007     1900.1
      2003    5160.45
      2004    1309.95
      2008      18.69
      2002      75.75

7 rows selected.
```

89.Write a query that selects the first customer in alphabetical order whose nam
e begins with G.

```
SQL> select cname from customers
  2  where cname like 'G%' and rownum=1;

CNAME
--------------------
Giovani
```

90.Write a query that counts the number of different nonNULL city values in the
Customers table.

```
SQL> select count( distinct city) from customers;

COUNT(DISTINCTCITY)
-------------------
                  4
```

91.Find the average amount from the Orders table.

```
SQL> select avg(amt) from orders;

  AVG(AMT)
```

```
----------
   2665.84
```

92.What would be the output from the following query?
SELECT * FROM ORDERS WHERE NOT (odate = 10/03/96 OR snum > 1006) AND amt >= 1500
);

```
>select * from orders where not(odate='03-OCT-96' or snum>1006) and amt>=1500;
```

93.Find all customers who are not located in San Jose and whose rating is above 200.

```
SQL> select cname from customers where city!='San Jose' and rating > 200;

CNAME
--------------------
Grass
```

94.Give a simpler way to write this query :
SELECT snum, sname city, comm FROM salespeople   WHERE (comm > + 0.12 OR comm < 0.14);

```
SQL> SELECT snum, sname city, comm FROM salespeople1  WHERE (comm > + 0.12 OR co
mm < 0.14);

      SNUM CITY                      COMM
---------- -------------------- ----------
      1001 Peel                         12
      1002 Serres                       13
      1004 Motika                       11
      1007 Rifkin                       15
      1003 AxelRod                      10
      1005 Fran                         26

6 rows selected.
```

95.Evaluate the following query :

```
                        SELECT * FROM orders
                        WHERE NOT ((odate = 10/03/96 AND snum > 1002) OR amt > 2
000.00);




SQL> SELECT * FROM orders
  2                     WHERE NOT ((odate = 10/03/96 AND snum > 1002) OR amt > 2
000.00);
                        WHERE NOT ((odate = 10/03/96 AND snum > 1002) OR amt > 2
000.00)
                                          *
```

```
ERROR at line 2:
ORA-00932: inconsistent datatypes: expected DATE got NUMBER
```

96.Which salespersons attend to customers not in the city they have been assigne
d to?

```
SQL> select s.sname,s.city,c.cname,c.city from salespeople1 s,customers c where
c.city!=s.city and s.snum=c.snum;

SNAME                CITY                 CNAME
-------------------- -------------------- --------------------
CITY
--------------------
AxelRod              New York             Giovani
Rome

Serres               San Jose             Grass
Berlin

Rifkin               Barcelona            Cisneros
San Jose


SNAME                CITY                 CNAME
-------------------- -------------------- --------------------
CITY
--------------------
Motika               London               Pereira
Rome
```

97.Which salespeople get commission greater than 0.11 are serving customers rate
d less than 250?

```
SQL> select sname from salespeople1 where comm > 11 and snum in(select snum from
 customers where rating < 250);


SNAME
--------------------
Peel
Serres
```

98.Which salespeople have been assigned to the same city but get different commi
ssion percentages?

```
SQL> select sname,comm,city from salespeople1 where city in(
  2  select city from salespeople1
  3  group by city having count(city) > 1);

SNAME                      COMM CITY
-------------------- ---------- --------------------
Peel                         12 London
```

```
Motika                         11 London
Fran                           26 London
```

99.Which salesperson has earned the most by way of commission?

```
SQL> select * from(select sum(comm*amt*0.01) as amt,sname from salespeople1,orde
rs group by sname order by amt desc)where rownum<2;

       AMT SNAME
---------- --------------------
  6931.184 Fran
```

100.Does the customer who has placed the maximum number of orders have the maxim
um rating?

```
SQL> select cnum,count(onum) from orders having count(onum) in (select max(count
(onum)) from orders group by cnum)group by cnum;

      CNUM COUNT(ONUM)
---------- -----------
      2006           2
      2008           2
      2002           2
```

```
SQL> select max(rating) from customers where cnum in (select cnum from orders ha
ving count(onum) in (select max(count(onum)) from orders group by cnum)group by
cnum);

MAX(RATING)
-----------
        300
```

102)

```
SQL> select cname,rating from customers order by rating desc;

CNAME                    RATING
-------------------- ----------
Grass                       300
Cisneros                    300
Liu                         200
Giovani                     200
Pereira                     100
Clemens                     100
Hoffman                     100

7 rows selected.
```

103.On which days has Hoffman placed orders?

```
SQL> select onum,odate from orders where cnum in(select cnum from customers wher
e cname='Hoffman');
```

```
      ONUM ODATE
---------- ---------
      3003 03-OCT-96
```

104.Do all salespeople have different commissions?

```
SQL> select count( distinct comm),count(distinct snum) from salespeople1;

COUNT(DISTINCTCOMM) COUNT(DISTINCTSNUM)
------------------- -------------------
                  6                   6
```

105.Which salespeople have no orders between 10/03/1996 and 10/05/1996?

```
SQL> select sname from salespeople1 where snum in( select snum from orders where
 odate not in(select odate from orders where odate between '03-OCT-1996' and '05
-OCT-1996'));

SNAME
--------------------
Peel
Serres
```

106.How many salespersons have succeeded in getting orders?

```
SQL> select count(snum) from salespeople1 where snum in( select snum from orders
 group by snum);

COUNT(SNUM)
-----------
          5
```

107.How many customers have placed orders?

```
SQL> select count(cnum) from customers where cnum in(select cnum from orders gro
up by cnum);

COUNT(CNUM)
-----------
          7
```

108.On which date has each salesperson booked an order of maximum value?

```
SQL> select odate from orders where amt in(select max(amt) from orders group by
snum);

ODATE
---------
03-OCT-96
03-OCT-96
03-OCT-96
04-OCT-96
06-OCT-96
```

109.Who is the most successful salesperson?

```
SQL> select sum(comm*amt*0.01) as amt,sname from salespeople1,orders group by sn
ame order by amt desc;

       AMT SNAME
---------- --------------------
  6931.184 Fran
   3998.76 Rifkin
  3465.592 Serres
  3199.008 Peel
  2932.424 Motika
   2665.84 AxelRod

6 rows selected.

SQL> select * from(select sum(comm*amt*0.01) as amt,sname from salespeople1,orde
rs group by sname order by amt desc)where rownum<2;

       AMT SNAME
---------- --------------------
  6931.184 Fran
```

```
////////////////////////////////////////////////////////////
SQL> select a,b from(select sum(comm*amt*0.01) as a,sname as b from salespeople1
,orders group by sname order by a desc)where rownum<2;
//alias a used as order by//

         A B
---------- --------------------
  6931.184 Fran
```

110.Who is the worst customer with respect to the company?

```
SQL> select a,c from(select sum(amt) as a,cnum as c from orders group by cnum or
der by a)where rownum=1;

         A          C
---------- ----------
    767.19       2001
```

111.Are all customers not having placed orders greater than 200 totally been ser
viced by salespersons Peel or Serres?

```
select sname,snum from salespeople where snum in(select snum from customers wher
e rating>200) and sname!='peel' and sname!='serres';

no rows selected
```

112.Which customers have the same rating?

```
SQL> select c1.cname,c2.cname,c1.rating from customers c1,customers c2  where c1
.rating=c2.rating and c1.cname!=c2.cname order by c1.rating;

CNAME                CNAME                     RATING
-------------------- -------------------- ----------
Clemens              Pereira                      100
Clemens              Hoffman                      100
Hoffman              Pereira                      100
Pereira              Clemens                      100
Hoffman              Clemens                      100
Pereira              Hoffman                      100
Liu                  Giovani                      200
Giovani              Liu                          200
Grass                Cisneros                     300
Cisneros             Grass                        300

10 rows selected.
```

////////////////////////////

```
SQL> select cname from customers where rating in(select rating from(select ratin
g from customers group by rating)where rownum<4);

CNAME
--------------------
Pereira
Clemens
Hoffman
Liu
Giovani
Cisneros
Grass

7 rows selected.
////////////////////////////////
```

113.Find all orders greater than the average for October 4th.

```
SQL> select onum from orders where amt > (select avg(amt) from orders where odat
e='04-OCT-1996');

      ONUM
----------
```

```
      3002
      3005
      3006
      3009
      3008
      3010
      3011

7 rows selected.
```

114.Which customers have above average orders?

```
SQL> select avg(count(cnum)) from orders group by cnum;

AVG(COUNT(CNUM))
----------------
      1.42857143

SQL> select cnum from orders group by cnum having count(cnum) > (select avg(coun
t(cnum)) from orders group by cnum);

      CNUM
----------
      2006
      2008
      2002

SQL> select cname,cnum from customers where cnum in(select cnum from orders grou
p by cnum having count(cnum) > (select avg(count(cnum)) from orders group by cnu
m));

CNAME                     CNUM
-------------------- ----------
Clemens                   2006
Cisneros                  2008
Giovani                   2002
```

115.List all customers with ratings above San Jose s average.

```
SQL> select cname from customers where rating >(select avg(rating) from customer
s where city='San Jose');

CNAME
--------------------
Grass
Cisneros
```

116.Select the total amount in orders for each salesperson for whom the total is greater than the amount of the largest order in the table.

```
SQL> select sum(amt),snum from orders group by snum having sum(amt) >(select max
(amt) from orders);

  SUM(AMT)       SNUM
---------- ----------
  15382.07       1001
```

117.Give names and numbers of all salespersons who have more than one customer.

```
SQL> select snum,sname from salespeople1 where snum in(select snum from customer
s group by snum having count(snum)>1);

      SNUM SNAME
---------- --------------------
      1001 Peel
      1002 Serres
```

118.Select all salespersons by name and number who have customers in their city whom they don t service.

```
SQL> select s.sname,s.snum from salespeople s,customers c where s.city=c.city an
d s.snum!=c.snum;

SNAME                     SNUM
-------------------- ----------
Fran                      1005
motika                    1004
Fran                      1005
motika                    1004
serres                    1002
```

119.Which customers rating should be lowered?

```
SQL> select cnum,cname from customers where cnum in(select cnum from orders grou
p by cnum having sum(amt)=(select min(sum(amt)) from orders group by cnum));

      CNUM CNAME
---------- --------------------
      2001 Hoffman
```

120.Is there a case for assigning a salesperson to Berlin?

```
SQL> select sname from salespeople1 where snum in(select snum from customers whe
re city='Berlin');

SNAME
--------------------
```

Serres

121.Is there any evidence linking the performance of a salesperson to the commis
sion that he or she is being paid?

```
SQL> select o.snum,count(o.snum),snum(o.amt*s.comm) from salespeople s,orders o
where o.snum=s.snum group by o.snum;
```

122.Does the total amount in orders by customer in Rome and London exceed the co
mmission paid to salespersons in London and New York by more than 5 times?

123.Which is the date, order number, amt and city for each salesperson (by name)
 for the maximum order he has obtained?

```
SQL> select o.onum,o.snum,s.city,o.odate,o.amt from orders o,salespeople1 s wher
e o.snum=s.snum and amt in(select max(amt) from orders group by snum);
```

ONUM	SNUM	CITY	ODATE	AMT
3011	1001	London	06-OCT-96	9891.88
3005	1002	San Jose	03-OCT-96	5160.45
3002	1004	London	03-OCT-96	1900.1
3006	1007	Barcelona	03-OCT-96	1098.16
3009	1003	New York	04-OCT-96	1713.23

124.Which salesperson(s) should be fired?

```
SQL> select sname ,sum(amt) from salespeople c,orders o where c.snum=o.snum grou
p by sname having sum(amt)=(select min(sa) from (select sum(amt)sa from orders g
roup by snum));

no rows selected
```

125.What is the total income for the company?

```
SQL> select sum(amt)-sum(comm*amt*0.01) from salespeople1,orders where salespeop
le1.snum=orders.snum;

SUM(AMT)-SUM(COMM*AMT*0.01)
---------------------------
                 23415.9631
```