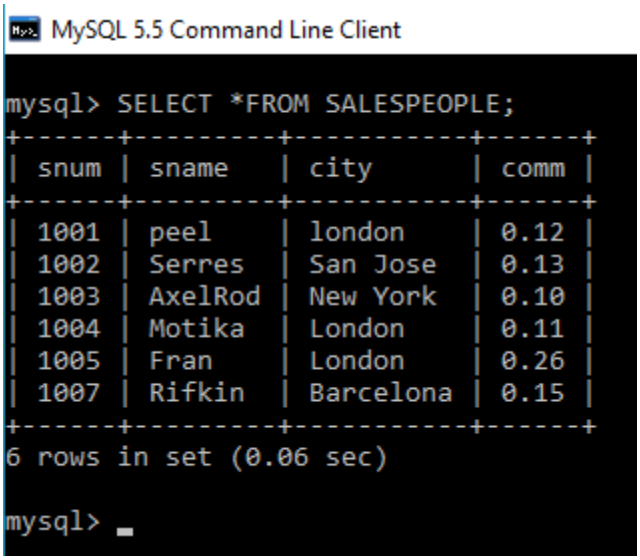
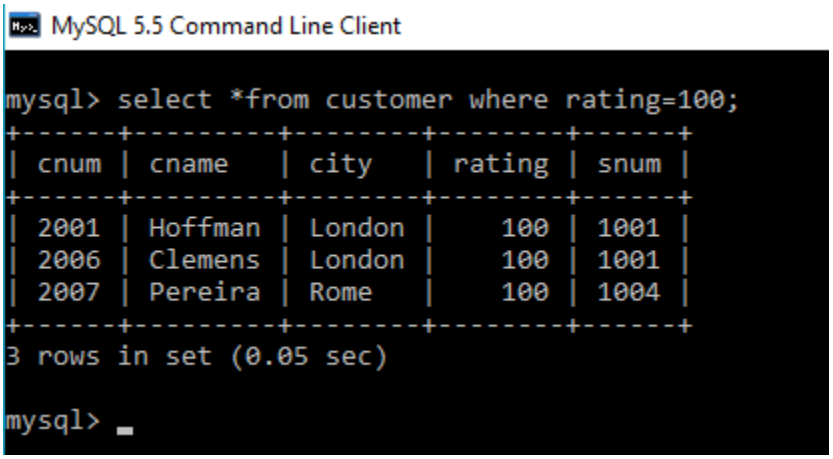
Queries

1. List all the columns of the Salespeople table.




2. List all customers with a rating of 100.




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

```
mysql> SELECT *FROM CUSTOMER;
+------+----------+----------+--------+------+
| cnum | cname    | city     | rating | snum |
+------+----------+----------+--------+------+
| 2001 | Hoffman  | London   |    100 | 1001 |
| 2002 | Giovanni | Rome     |    200 | 1003 |
| 2003 | Liu      | San Jose |    200 | 1002 |
| 2004 | Grass    | Berlin   |    300 | 1002 |
| 2006 | Clemens  | London   |    100 | 1001 |
| 2007 | Pereira  | Rome     |    100 | 1004 |
| 2008 | Cisneros | San Jose |    300 | 1007 |
+------+----------+----------+--------+------+
7 rows in set (0.00 sec)

mysql> SELECT *FROM CUSTOMER WHERE CITY="NULL";
Empty set (0.00 sec)
```

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

```
| 3011 | 9891.88 | 1996-10-06 | 2006 |
+------+---------+------------+------+
10 rows in set (0.00 sec)

mysql> select s.sname,max(o.amt),o.odate from salespeople s,customer c,orders o
where o.cnum=c.cnum and c.snum = s.snum group by s.sname,o.odate;
+----------+------------+------------+
| sname    | max(o.amt) | odate      |
+----------+------------+------------+
| axel rod |    1713.23 | 1996-10-04 |
| motika   |    1900.10 | 1996-10-03 |
| peel     |     767.19 | 1996-10-03 |
| peel     |    4723.00 | 1996-10-05 |
| peel     |    9891.88 | 1996-10-06 |
| rifkin   |    1098.16 | 1996-10-03 |
| serres   |    5160.45 | 1996-10-03 |
| serres   |    1309.95 | 1996-10-06 |
+----------+------------+------------+
8 rows in set (0.00 sec)

mysql>
```

5. Arrange the Orders table by descending customer number

MySQL 5.5 Command Line Client

```
mysql> SELECT *FROM ORDERS ORDER BY CNUM DESC;
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3001 |   18.69 | 1996-03-10 | 2008 |
| 3006 | 1098.16 | 1996-03-10 | 2008 |
| 3002 | 1900.10 | 1996-03-10 | 2007 |
| 3008 | 4723.00 | 1996-05-10 | 2006 |
| 3011 | 9891.88 | 1996-06-10 | 2006 |
| 3010 | 1309.95 | 1996-06-10 | 2004 |
| 3005 | 5160.45 | 1996-03-10 | 2003 |
| 3009 | 1713.23 | 1996-04-10 | 2002 |
| 3007 |   75.75 | 1996-04-10 | 2002 |
| 3003 |  767.19 | 1996-03-10 | 2001 |
+------+---------+------------+------+
10 rows in set (0.07 sec)

mysql>
```

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

```
mysql> select a.sname from salespeople a,customer b,orders c where a.snum=b.snum
 and b.cnum=c.cnum group by a.sname;
+----------+
| sname    |
+----------+
| axel rod |
| motika   |
| peel     |
| rifkin   |
| serres   |
+----------+
5 rows in set (0.00 sec)
```

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

```
mysql> select s.sname,c.cname from salespeople s,customer c where s.snum=c.snum;

+----------+----------+
| sname    | cname    |
+----------+----------+
| peel     | Hoffman  |
| axel rod | Giovanni |
| serres   | Liu      |
| serres   | Grass    |
| peel     | clemens  |
| motika   | pereira  |
| rifkin   | cisneros |
+----------+----------+
7 rows in set (0.00 sec)
```

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

```
mysql> select a.snum,a.sname from salespeople a,customer b where a.snum=b.snum g
roup by b.snum having count(b.snum)>1;
+------+--------+
| snum | sname  |
+------+--------+
| 1001 | peel   |
| 1002 | serres |
+------+--------+
2 rows in set (0.29 sec)
```

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

```
mysql> select a.sname,count(a.sname) as nooforder from salespeople a,customer b,
orders c where a.snum=b.snum and b.cnum=c.cnum group by a.sname order by nooford
er desc;
+----------+-----------+
| sname    | nooforder |
+----------+-----------+
| peel     |         3 |
| serres   |         2 |
| axel rod |         2 |
| rifkin   |         2 |
| motika   |         1 |
+----------+-----------+
5 rows in set (0.00 sec)
```

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

```
mysql> select *from customer where city="san jose";
+------+----------+----------+--------+------+
| cnum | cname    | city     | rating | snum |
+------+----------+----------+--------+------+
| 2003 | Liu      | San Jose |    200 | 1002 |
| 2008 | Cisneros | San Jose |    300 | 1007 |
+------+----------+----------+--------+------+
2 rows in set (0.00 sec)
```

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

```
mysql> select s.sname,c.cname,s.city as scity,c.city as ccity from salespeople s
,customer c where s.city=c.city and s.snum=c.snum;
+--------+---------+----------+----------+
| sname  | cname   | scity    | ccity    |
+--------+---------+----------+----------+
| peel   | Hoffman | london   | london   |
| serres | Liu     | san jose | san jose |
| peel   | clemens | london   | London   |
+--------+---------+----------+----------+
3 rows in set (0.00 sec)
```

12. Find the largest order taken by each salesperson.

```
mysql> select s.sname,max(o.amt) from salespeople s,customer c,orders o where s.
snum=c.snum and c.cnum=o.cnum group by s.sname;
+----------+------------+
| sname    | max(o.amt) |
+----------+------------+
| axel rod |    1713.23 |
| motika   |    1900.10 |
| peel     |    9891.88 |
| rifkin   |    1098.16 |
| serres   |    5160.45 |
+----------+------------+
5 rows in set (0.00 sec)
```

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

```
mysql> select *from customer where city="san jose" && rating>200;
+------+----------+----------+--------+------+
| cnum | cname    | city     | rating | snum |
+------+----------+----------+--------+------+
| 2008 | Cisneros | San Jose |    300 | 1007 |
+------+----------+----------+--------+------+
1 row in set (0.06 sec)

mysql>
```

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

```
mysql> select sname,comm from salespeople where city="London";
+--------+------+
| sname  | comm |
+--------+------+
| peel   | 0.12 |
| Motika | 0.11 |
| Fran   | 0.26 |
+--------+------+
3 rows in set (0.00 sec)

mysql>
```

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

```
mysql> select a.sname,c.onum from salespeople a,customer b,orders c where a.snum
 =b.snum and b.cnum = c.cnum and a.sname='motika';
+--------+------+
| sname  | onum |
+--------+------+
| motika | 3002 |
+--------+------+
1 row in set (0.00 sec)
```

16. Find all customers with orders on October 3.

```
mysql> select c.cname,o.onum,o.odate from customer c,orders o where c.cnum=o.cnu
m and odate='1996-10-03';
+----------+------+------------+
| cname    | onum | odate      |
+----------+------+------------+
| cisneros | 3001 | 1996-10-03 |
| pereira  | 3002 | 1996-10-03 |
| Hoffman  | 3003 | 1996-10-03 |
| Liu      | 3005 | 1996-10-03 |
| cisneros | 3006 | 1996-10-03 |
+----------+------+------------+
5 rows in set (0.05 sec)
```

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

```
mysql> select sum(amt),odate from orders  group by odate having sum(amt)>2000;
+----------+------------+
| sum(amt) | odate      |
+----------+------------+
|  8944.59 | 1996-10-03 |
|  4723.00 | 1996-10-05 |
| 11201.83 | 1996-10-06 |
+----------+------------+
3 rows in set (0.00 sec)
```

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

```
mysql> select *from orders where amt > (select min(amt) from orders where odate=
'1996-10-06');
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3002 | 1900.10 | 1996-10-03 | 2007 |
| 3005 | 5160.45 | 1996-10-03 | 2003 |
| 3008 | 4723.00 | 1996-10-05 | 2006 |
| 3009 | 1713.23 | 1996-10-04 | 2002 |
| 3011 | 9891.88 | 1996-10-06 | 2006 |
+------+---------+------------+------+
5 rows in set (0.00 sec)
```

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

```
mysql> select s.sname,c.cnum,c.rating from salespeople s,customer c where exists
(select rating from customer where rating=300)and s.snum=c.snum and rating=300;
+--------+------+--------+
| sname  | cnum | rating |
+--------+------+--------+
| serres | 2004 |    300 |
| rifkin | 2008 |    300 |
+--------+------+--------+
2 rows in set (0.00 sec)
```

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

```
mysql> select a.cname,b.cname as pair,a.rating from customer a,customer b where
a.cnum!=b.cnum and a.rating=b.rating;
+----------+----------+--------+
| cname    | pair     | rating |
+----------+----------+--------+
| clemens  | Hoffman  |    100 |
| pereira  | Hoffman  |    100 |
| Liu      | Giovanni |    200 |
| Giovanni | Liu      |    200 |
| cisneros | Grass    |    300 |
| Hoffman  | clemens  |    100 |
| pereira  | clemens  |    100 |
| Hoffman  | pereira  |    100 |
| clemens  | pereira  |    100 |
| Grass    | cisneros |    300 |
+----------+----------+--------+
10 rows in set (0.00 sec)
```

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

```
mysql> select c.cnum,c.cname from customer c, salespeople s where c.cnum>1000+(s
elect snum from salespeople where sname='serres')and s.snum=c.snum;
+------+----------+
| cnum | cname    |
+------+----------+
| 2003 | Liu      |
| 2004 | Grass    |
| 2006 | clemens  |
| 2007 | pereira  |
| 2008 | cisneros |
+------+----------+
5 rows in set (0.00 sec)
```

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

```
mysql> select round(comm*100) as comminpercentage from salespeople;
+------------------+
| comminpercentage |
+------------------+
|               12 |
|               13 |
|               10 |
|               11 |
|               26 |
|               15 |
+------------------+
6 rows in set (0.10 sec)
```

. 23. Find the largest order taken by each salesperson on each date, eliminating those MAX orders which are less than $3000.00 in value.

```
mysql> select s.sname,max(o.amt),o.odate from salespeople s,customer c,orders o
where s.snum=c.snum and c.cnum=o.cnum group by o.odate,s.sname having max(o.amt)
>3000;
+--------+------------+------------+
| sname  | max(o.amt) | odate      |
+--------+------------+------------+
| serres |    5160.45 | 1996-10-03 |
| peel   |    4723.00 | 1996-10-05 |
| peel   |    9891.88 | 1996-10-06 |
+--------+------------+------------+
3 rows in set (0.01 sec)
```

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

```
mysql> select s.sname,c.cname,max(o.amt) from salespeople s,customer c,orders o
where s.snum=c.snum and c.cnum=o.cnum and o.odate='1996-10-03' group by s.sname,
c.cname;
+--------+----------+------------+
| sname  | cname    | max(o.amt) |
+--------+----------+------------+
| motika | pereira  |    1900.10 |
| peel   | Hoffman  |     767.19 |
| rifkin | cisneros |    1098.16 |
| serres | Liu      |    5160.45 |
+--------+----------+------------+
4 rows in set (0.00 sec)
```

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

```
mysql> select *from customer where city in (select c.city from customer c,salesp
eople s where s.snum=c.snum and s.sname='serres');
+------+----------+----------+--------+------+
| cnum | cname    | city     | rating | snum |
+------+----------+----------+--------+------+
| 2003 | Liu      | san jose |    200 | 1002 |
| 2004 | Grass    | berlin   |    300 | 1002 |
| 2008 | cisneros | san jose |    300 | 1007 |
+------+----------+----------+--------+------+
3 rows in set (0.30 sec)
```

26. Select all customers with a rating above 200.00.

```
mysql> select *from customer where rating>200;
+------+----------+----------+--------+------+
| cnum | cname    | city     | rating | snum |
+------+----------+----------+--------+------+
| 2004 | Grass    | Berlin   |    300 | 1002 |
| 2008 | Cisneros | San Jose |    300 | 1007 |
+------+----------+----------+--------+------+
2 rows in set (0.00 sec)

mysql>
```

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

```
mysql> select count(sname) from salespeople where sname in(select s.sname from s
alespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum);
+--------------+
| count(sname) |
+--------------+
|            5 |
+--------------+
1 row in set (0.00 sec)
```

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

```
mysql> select c.cname,s.comm from salespeople s,customer c where c.snum=s.snum a
nd s.comm>12/100;
+----------+------+
| cname    | comm |
+----------+------+
| Liu      | 0.13 |
| Grass    | 0.13 |
| cisneros | 0.15 |
+----------+------+
3 rows in set (0.00 sec)
```

29. Find salespeople who have multiple customers.

```
mysql> select snum,count(*) as total from customer group by snum having total>1;

+------+-------+
| snum | total |
+------+-------+
| 1001 |     2 |
| 1002 |     2 |
+------+-------+
2 rows in set (0.00 sec)
```

30. Find salespeople with customers located in their city.

```
mysql> select a.cname,a.city,b.sname from customer a,salespeople b where a.snum=
b.snum and a.city=b.city;
+---------+----------+--------+
| cname   | city     | sname  |
+---------+----------+--------+
| Hoffman | london   | peel   |
| Liu     | san jose | serres |
| clemens | London   | peel   |
+---------+----------+--------+
3 rows in set (0.00 sec)
```

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

```
mysql> select *from salespeople where substring(sname,1,1)='p' and substring(sna
me,4,1)='l';
+------+-------+--------+------+
| snum | sname | city   | comm |
+------+-------+--------+------+
| 1001 | peel  | london | 0.12 |
+------+-------+--------+------+
1 row in set (0.00 sec)
```

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

```
mysql> select *from orders where cnum = (select cnum from customer where cname='
cisneros');
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3001 |   18.69 | 1996-10-03 | 2008 |
| 3006 | 1098.16 | 1996-10-03 | 2008 |
+------+---------+------------+------+
2 rows in set (0.27 sec)
```

33. Find the largest orders for Serres and Rifkin.

```
mysql> select max(o.amt) as largest_order , s.sname from salespeople s,customer
c,orders o where s.snum=c.snum and c.cnum =o.cnum and (s.sname='serres' or s.sna
me='rifkin') group by s.sname;
+--------------+--------+
| largest_order | sname  |
+--------------+--------+
|       1098.16 | rifkin |
|       5160.45 | serres |
+--------------+--------+
2 rows in set (0.00 sec)
```

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

```
mysql> select snum,sname,comm,city from salespeople;
+------+----------+------+-----------+
| snum | sname    | comm | city      |
+------+----------+------+-----------+
| 1001 | peel     | 0.12 | london    |
| 1002 | serres   | 0.13 | san jose  |
| 1003 | axel rod | 0.10 | new york  |
| 1004 | motika   | 0.11 | london    |
| 1005 | Fran     | 0.26 | london    |
| 1007 | rifkin   | 0.15 | barcelona |
+------+----------+------+-----------+
6 rows in set (0.00 sec)
```

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

```
mysql> select cname from customer where (substring(cname,1,1)>='a' and substring
(cname,1,1)<='g');
+----------+
| cname    |
+----------+
| Giovanni |
| Grass    |
| clemens  |
| cisneros |
+----------+
4 rows in set (0.00 sec)
```

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

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

```
mysql> select *from orders where amt > (select avg(amt) from orders where odate=
'1996-10-04');
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3002 | 1900.10 | 1996-10-03 | 2007 |
| 3005 | 5160.45 | 1996-10-03 | 2003 |
| 3006 | 1098.16 | 1996-10-03 | 2008 |
| 3008 | 4723.00 | 1996-10-05 | 2006 |
| 3009 | 1713.23 | 1996-10-04 | 2002 |
| 3010 | 1309.95 | 1996-10-06 | 2004 |
| 3011 | 9891.88 | 1996-10-06 | 2006 |
+------+---------+------------+------+
7 rows in set (0.00 sec)
```

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.

```
mysql> select a.cname,a.city,a.rating from customer a,(select city, max(rating)a
s highest from customer group by city) as b where a.rating=b.highest and a.city=
b.city;
+----------+----------+--------+
| cname    | city     | rating |
+----------+----------+--------+
| Hoffman  | london   |    100 |
| Giovanni | rome     |    200 |
| Grass    | berlin   |    300 |
| clemens  | London   |    100 |
| cisneros | san jose |    300 |
+----------+----------+--------+
5 rows in set (0.00 sec)
```

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

```
mysql> select sum(amt) as total,odate from orders group by odate order by total
desc ;
+----------+------------+
| total    | odate      |
+----------+------------+
| 11201.83 | 1996-10-06 |
|  8944.59 | 1996-10-03 |
|  4723.00 | 1996-10-05 |
|  1788.98 | 1996-10-04 |
+----------+------------+
4 rows in set (0.08 sec)
```

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

```
mysql> select rating,cname from customer where city ='san jose';
+--------+----------+
| rating | cname    |
+--------+----------+
|    200 | Liu      |
|    300 | cisneros |
+--------+----------+
2 rows in set (0.00 sec)
```

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

```
mysql> select o.onum,o.amt from orders o,customer c where amt < (select max(o.am
t) from orders o,customer c where c.city='san jose' and o.cnum=c.cnum) and c.cit
y!='san jose'and o.cnum=c.cnum;
+------+---------+
| onum | amt     |
+------+---------+
| 3002 | 1900.10 |
| 3003 |  767.19 |
| 3007 |   75.75 |
| 3008 | 4723.00 |
| 3009 | 1713.23 |
| 3010 | 1309.95 |
+------+---------+
6 rows in set (0.01 sec)
```

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

```
mysql> select o.cnum,o.amt from orders o where o.amt>(select avg(amt) from order
s o1 where o1.cnum =o.cnum group by cnum);
+------+---------+
| cnum | amt     |
+------+---------+
| 2008 | 1098.16 |
| 2002 | 1713.23 |
| 2006 | 9891.88 |
+------+---------+
3 rows in set (0.00 sec)
```

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

```
mysql> select city,max(rating) as highest from customer group by city;
+----------+---------+
| city     | highest |
+----------+---------+
| berlin   |     300 |
| london   |     100 |
| rome     |     200 |
| san jose |     300 |
+----------+---------+
4 rows in set (0.00 sec)
```

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

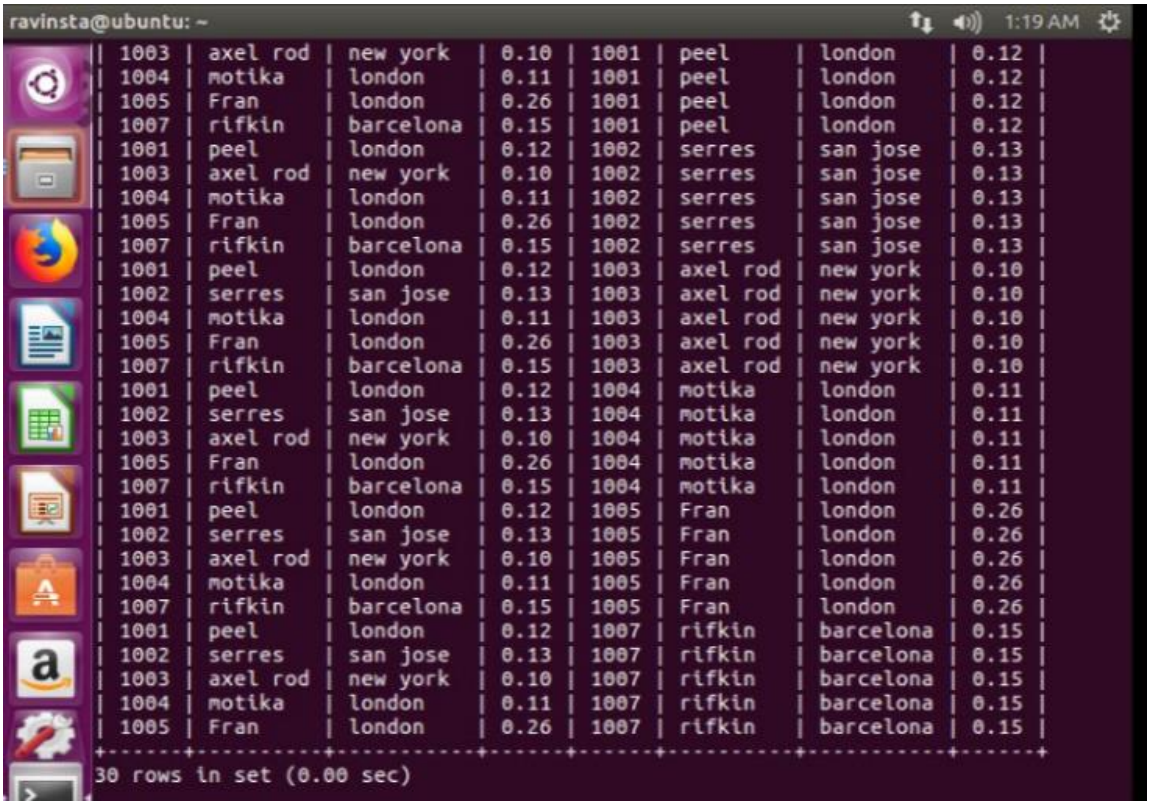
```
mysql> select s.sname,s.comm*o.amt as comm,c.rating,o.onum from salespeople s,cu
stomer c,orders o where s.snum=c.snum and c.cnum=o.cnum and c.rating>100;
+----------+----------+--------+------+
| sname    | comm     | rating | onum |
+----------+----------+--------+------+
| axel rod |   7.5750 |    200 | 3007 |
| axel rod | 171.3230 |    200 | 3009 |
| serres   | 670.8585 |    200 | 3005 |
| serres   | 170.2935 |    300 | 3010 |
| rifkin   |   2.8035 |    300 | 3001 |
| rifkin   | 164.7240 |    300 | 3006 |
+----------+----------+--------+------+
6 rows in set (0.05 sec)
```

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

```
mysql> select count(cname) from customer where rating > (select avg(rating) from
 customer where city='san jose');
+--------------+
| count(cname) |
+--------------+
|            2 |
+--------------+
1 row in set (0.00 sec)
```

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

```
mysql> select *from salespeople a,salespeople b where a.sname <> b.sname;
```




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

```
mysql> select *from salespeople where city='barcelona' or city = 'london';
+------+--------+-----------+------+
| snum | sname  | city      | comm |
+------+--------+-----------+------+
| 1001 | peel   | london    | 0.12 |
| 1004 | motika | london    | 0.11 |
| 1005 | Fran   | london    | 0.26 |
| 1007 | rifkin | barcelona | 0.15 |
+------+--------+-----------+------+
4 rows in set (0.00 sec)
```

48. Find all salespeople with only one customer.

```
mysql> select s.sname from salespeople s,customer c where s.snum=c.snum group by
 c.snum having count(c.snum)=1;
+----------+
| sname    |
+----------+
| axel rod |
| motika   |
| rifkin   |
+----------+
3 rows in set (0.00 sec)
```

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

```
mysql> select c.cname,c1.cname from customer c inner join customer c1 on c.snum=
c1.snum where c.cname<c1.cname;
+---------+---------+
| cname   | cname   |
+---------+---------+
| clemens | Hoffman |
| Grass   | Liu     |
+---------+---------+
2 rows in set (0.00 sec)
```

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

```
mysql> select *from orders where amt>1000;
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3002 | 1900.10 | 1996-10-03 | 2007 |
| 3005 | 5160.45 | 1996-10-03 | 2003 |
| 3006 | 1098.16 | 1996-10-03 | 2008 |
| 3008 | 4723.00 | 1996-10-05 | 2006 |
| 3009 | 1713.23 | 1996-10-04 | 2002 |
| 3010 | 1309.95 | 1996-10-06 | 2004 |
| 3011 | 9891.88 | 1996-10-06 | 2006 |
+------+---------+------------+------+
7 rows in set (0.00 sec)
```

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

```
mysql> select o.onum,c.cname from orders o,customer c where o.cnum=c.cnum order
by o.onum;
+------+----------+
| onum | cname    |
+------+----------+
| 3001 | cisneros |
| 3002 | pereira  |
| 3003 | Hoffman  |
| 3005 | Liu      |
| 3006 | cisneros |
| 3007 | Giovanni |
| 3008 | clemens  |
| 3009 | Giovanni |
| 3010 | Grass    |
| 3011 | clemens  |
+------+----------+
10 rows in set (0.05 sec)
```

52. Write 2 queries that select all salespeople (by name and number) who have customers in their cities who they do not service, one using a join and one a corelated subquery. Which solution is more elegant?

```
mysql> select distinct s.sname,s.snum from salespeople s,customer c where s.city
 in (select city from customer) and s.snum != c.snum and s.city =c.city;
+--------+------+
| sname  | snum |
+--------+------+
| motika | 1004 |
| Fran   | 1005 |
| serres | 1002 |
+--------+------+
3 rows in set (0.05 sec)
```

```
mysql> select distinct s.sname,s.snum from salespeople s inner join customer c o
n s.city = c.city and s.snum != c.snum;
+--------+------+
| sname  | snum |
+--------+------+
| motika | 1004 |
| Fran   | 1005 |
| serres | 1002 |
+--------+------+
3 rows in set (0.00 sec)
```

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

```
mysql> select c.cname,s.sname from customer c,salespeople s where rating >= (sel
ect min(c.rating) as serres from customer c,salespeople s where s.sname='serres'
 and s.snum=c.snum)and s.sname !='serres' and s.snum=c.snum;
+----------+----------+
| cname    | sname    |
+----------+----------+
| Giovanni | axel rod |
| cisneros | rifkin   |
+----------+----------+
2 rows in set (0.01 sec)
```

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

```
mysql> select *from orders where odate=('1996-10-03') or odate=('1996-10-04');
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3001 |   18.69 | 1996-10-03 | 2008 |
| 3002 | 1900.10 | 1996-10-03 | 2007 |
| 3003 |  767.19 | 1996-10-03 | 2001 |
| 3005 | 5160.45 | 1996-10-03 | 2003 |
| 3006 | 1098.16 | 1996-10-03 | 2008 |
| 3007 |   75.75 | 1996-10-04 | 2002 |
| 3009 | 1713.23 | 1996-10-04 | 2002 |
+------+---------+------------+------+
7 rows in set (0.00 sec)
```

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

```
mysql> select *from orders a,orders b where a.onum != b.onum and a.cnum=b.cnum;
+------+---------+------------+------+------+---------+------------+------+
| onum | amt     | odate      | cnum | onum | amt     | odate      | cnum |
+------+---------+------------+------+------+---------+------------+------+
| 3001 |   18.69 | 1996-10-03 | 2008 | 3006 | 1098.16 | 1996-10-03 | 2008 |
| 3006 | 1098.16 | 1996-10-03 | 2008 | 3001 |   18.69 | 1996-10-03 | 2008 |
| 3007 |   75.75 | 1996-10-04 | 2002 | 3009 | 1713.23 | 1996-10-04 | 2002 |
| 3008 | 4723.00 | 1996-10-05 | 2006 | 3011 | 9891.88 | 1996-10-06 | 2006 |
| 3009 | 1713.23 | 1996-10-04 | 2002 | 3007 |   75.75 | 1996-10-04 | 2002 |
| 3011 | 9891.88 | 1996-10-06 | 2006 | 3008 | 4723.00 | 1996-10-05 | 2006 |
+------+---------+------------+------+------+---------+------------+------+
6 rows in set (0.00 sec)
```

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

```
mysql> select * from customer where rating > (select min(rating) from customer w
here city='rome') and city!='rome';
+------+----------+----------+--------+------+
| cnum | cname    | city     | rating | snum |
+------+----------+----------+--------+------+
| 2003 | Liu      | san jose |    200 | 1002 |
| 2004 | Grass    | berlin   |    300 | 1002 |
| 2008 | cisneros | san jose |    300 | 1007 |
+------+----------+----------+--------+------+
3 rows in set (0.00 sec)
```

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.

```
mysql> select *from customer where rating not in (select rating from customer wh
ere rating<=100) or city = 'rome';
+------+----------+----------+--------+------+
| cnum | cname    | city     | rating | snum |
+------+----------+----------+--------+------+
| 2002 | Giovanni | rome     |    200 | 1003 |
| 2003 | Liu      | san jose |    200 | 1002 |
| 2004 | Grass    | berlin   |    300 | 1002 |
| 2007 | pereira  | rome     |    100 | 1004 |
| 2008 | cisneros | san jose |    300 | 1007 |
+------+----------+----------+--------+------+
5 rows in set (0.00 sec)
```

58. Find all rows from the Customers table for which the salesperson number is 1001.

```
mysql> select *from customer where snum=1001;
+------+---------+--------+--------+------+
| cnum | cname   | city   | rating | snum |
+------+---------+--------+--------+------+
| 2001 | Hoffman | london |    100 | 1001 |
| 2006 | clemens | London |    100 | 1001 |
+------+---------+--------+--------+------+
2 rows in set (0.00 sec)
```

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

```
mysql> select s.sname,sum(o.amt) as total from salespeople s, customer c,orders
o where s.snum=c.snum and c.cnum =o.cnum group by s.sname having (total > (selec
t max(amt) from orders));
+-------+----------+
| sname | total    |
+-------+----------+
| peel  | 15382.07 |
+-------+----------+
1 row in set (0.00 sec)
```

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

```
mysql> select *from orders where (amt is not null and amt>0);
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3001 |   18.69 | 1996-10-03 | 2008 |
| 3002 | 1900.10 | 1996-10-03 | 2007 |
| 3003 |  767.19 | 1996-10-03 | 2001 |
| 3005 | 5160.45 | 1996-10-03 | 2003 |
| 3006 | 1098.16 | 1996-10-03 | 2008 |
| 3007 |   75.75 | 1996-10-04 | 2002 |
| 3008 | 4723.00 | 1996-10-05 | 2006 |
| 3009 | 1713.23 | 1996-10-04 | 2002 |
| 3010 | 1309.95 | 1996-10-06 | 2004 |
| 3011 | 9891.88 | 1996-10-06 | 2006 |
+------+---------+------------+------+
10 rows in set (0.00 sec)
```

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

```
mysql> select c.cname,s.sname from salespeople s,customer c where c.rating<200 a
nd c.snum=s.snum order by c.cname;
+---------+--------+
| cname   | sname  |
+---------+--------+
| clemens | peel   |
| Hoffman | peel   |
| pereira | motika |
+---------+--------+
3 rows in set (0.08 sec)
```

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

```
mysql> select s.sname,sum(s.comm*o.amt) as commission from salespeople s,custome
r c,orders o where s.snum=c.snum and c.cnum=o.cnum group by sname;
+----------+------------+
| sname    | commission |
+----------+------------+
| axel rod |   178.8980 |
| motika   |   209.0110 |
| peel     |  1845.8484 |
| rifkin   |   167.5275 |
| serres   |   841.1520 |
+----------+------------+
5 rows in set (0.00 sec)
```

63. Write a query that produces the names and cities of all customers with the same 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.

```
mysql> select cname,city from customer where rating > (select rating from custom
er where cname='hoffman');
+----------+----------+
| cname    | city     |
+----------+----------+
| Giovanni | rome     |
| Liu      | san jose |
| Grass    | berlin   |
| cisneros | san jose |
+----------+----------+
4 rows in set (0.00 sec)
```

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

```
mysql> select s.sname from salespeople s,customer c where s.snum=c.snum group by
 s.sname order by sname;
+----------+
| sname    |
+----------+
| axel rod |
| motika   |
| peel     |
| rifkin   |
| serres   |
+----------+
5 rows in set (0.00 sec)
```

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

```
mysql> select distinct c.cname,c.rating from customer c,orders o where o.amt>(se
lect avg(amt)from orders) and c.cnum=o.cnum;
+---------+--------+
| cname   | rating |
+---------+--------+
| Liu     |    200 |
| clemens |    100 |
+---------+--------+
2 rows in set (0.00 sec)
```

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

```
mysql> select sum(amt) from orders;
+-----------+
| sum(amt) |
+-----------+
| 26658.40 |
+-----------+
1 row in set (0.19 sec)
```

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

```
mysql> select onum,amt,odate from orders;
+------+---------+------------+
| onum | amt     | odate      |
+------+---------+------------+
| 3001 |   18.69 | 1996-10-03 |
| 3002 | 1900.10 | 1996-10-03 |
| 3003 |  767.19 | 1996-10-03 |
| 3005 | 5160.45 | 1996-10-03 |
| 3006 | 1098.16 | 1996-10-03 |
| 3007 |   75.75 | 1996-10-04 |
| 3008 | 4723.00 | 1996-10-05 |
| 3009 | 1713.23 | 1996-10-04 |
| 3010 | 1309.95 | 1996-10-06 |
| 3011 | 9891.88 | 1996-10-06 |
+------+---------+------------+
10 rows in set (0.00 sec)
```

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

```
mysql> select count(*) from customer where rating != 0;
+----------+
| count(*) |
+----------+
|        7 |
+----------+
1 row in set (0.01 sec)
```

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

```
mysql> select o.onum,s.sname,c.cname from salespeople s,customer c,orders o wher
e s.snum=c.snum and c.cnum=o.cnum;
+------+----------+----------+
| onum | sname    | cname    |
+------+----------+----------+
| 3003 | peel     | Hoffman  |
| 3007 | axel rod | Giovanni |
| 3009 | axel rod | Giovanni |
| 3005 | serres   | Liu      |
| 3010 | serres   | Grass    |
| 3008 | peel     | clemens  |
| 3011 | peel     | clemens  |
| 3002 | motika   | pereira  |
| 3001 | rifkin   | cisneros |
| 3006 | rifkin   | cisneros |
+------+----------+----------+
10 rows in set (0.00 sec)
```

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

```
mysql> select distinct s.sname,s.comm from salespeople s,customer c where s.snum
=c.snum and c.city='london';
+-------+------+
| sname | comm |
+-------+------+
| peel  | 0.12 |
+-------+------+
1 row in set (0.00 sec)
```

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

```
mysql> select s.sname,c.cname from salespeople s,customer c where s.snum=c.snum
and s.sname <> all (select s.sname from salespeople s,customer c where s.snum=c.
snum and s.city = c.city);
+----------+----------+
| sname    | cname    |
+----------+----------+
| axel rod | Giovanni |
| motika   | pereira  |
| rifkin   | cisneros |
+----------+----------+
3 rows in set (0.00 sec)
```

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

```
mysql> select c.cname from customer c,salespeople s where c.snum=s.snum and c.sn
um = any(select snum from salespeople where sname='peel' or sname= 'motika') ;
+---------+
| cname   |
+---------+
| Hoffman |
| clemens |
| pereira |
+---------+
3 rows in set (0.00 sec)
```

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

```
mysql> select o.odate, count(distinct(s.sname)) from salespeople s,customer c,or
ders o where s.snum=c.snum and c.cnum=o.cnum group by o.odate;
+------------+--------------------------+
| odate      | count(distinct(s.sname)) |
+------------+--------------------------+
| 1996-10-03 |                        4 |
| 1996-10-04 |                        1 |
| 1996-10-05 |                        1 |
| 1996-10-06 |                        2 |
+------------+--------------------------+
4 rows in set (0.08 sec)
```

75. Find all orders attributed to salespeople in London.

```
mysql> select o.* from orders o,customer c,salespeople s where s.snum=c.snum and
 c.cnum=o.cnum and s.city='london';
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3003 |  767.19 | 1996-10-03 | 2001 |
| 3008 | 4723.00 | 1996-10-05 | 2006 |
| 3011 | 9891.88 | 1996-10-06 | 2006 |
| 3002 | 1900.10 | 1996-10-03 | 2007 |
+------+---------+------------+------+
4 rows in set (0.05 sec)
```

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

```
mysql> select o.* from orders o,customer c,salespeople s where s.snum=c.snum and
 c.cnum = o.cnum and s.city!=c.city order by o.onum;
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3001 |   18.69 | 1996-10-03 | 2008 |
| 3002 | 1900.10 | 1996-10-03 | 2007 |
| 3006 | 1098.16 | 1996-10-03 | 2008 |
| 3007 |   75.75 | 1996-10-04 | 2002 |
| 3009 | 1713.23 | 1996-10-04 | 2002 |
| 3010 | 1309.95 | 1996-10-06 | 2004 |
+------+---------+------------+------+
6 rows in set (0.07 sec)
```

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

```
mysql> select s.sname from salespeople s, customer c, orders o where s.snum=c.sn
um and o.cnum=c.cnum group by c.cnum having (count(o.onum)>1);
+----------+
| sname    |
+----------+
| axel rod |
| peel     |
| rifkin   |
+----------+
3 rows in set (0.00 sec)
```

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

```
mysql> select cname from customer where substring(cname,1,1)='c';
+----------+
| cname    |
+----------+
| clemens  |
| cisneros |
+----------+
2 rows in set (0.00 sec)
```

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

```
mysql> select concat('for the city:',city,'max(rating) is'),max(rating) from cus
tomer group by city;
+-----------------------------------------------+-------------+
| concat('for the city:',city,'max(rating) is') | max(rating) |
+-----------------------------------------------+-------------+
| for the city:berlinmax(rating) is             |         300 |
| for the city:londonmax(rating) is             |         100 |
| for the city:romemax(rating) is               |         200 |
| for the city:san josemax(rating) is           |         300 |
+-----------------------------------------------+-------------+
4 rows in set (0.15 sec)
```

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

```
mysql> select s.snum,o.onum from salespeople s,customer c,orders o where s.snum=
c.snum and c.cnum=o.cnum;
+------+------+
| snum | onum |
+------+------+
| 1001 | 3003 |
| 1001 | 3008 |
| 1001 | 3011 |
| 1002 | 3005 |
| 1002 | 3010 |
| 1003 | 3007 |
| 1003 | 3009 |
| 1004 | 3002 |
| 1007 | 3001 |
| 1007 | 3006 |
+------+------+
10 rows in set (0.00 sec)
```

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.

```
mysql> select rating,cname,cnum from customer order by rating desc;
+--------+----------+------+
| rating | cname    | cnum |
+--------+----------+------+
|    300 | Grass    | 2004 |
|    300 | cisneros | 2008 |
|    200 | Giovanni | 2002 |
|    200 | Liu      | 2003 |
|    100 | Hoffman  | 2001 |
|    100 | clemens  | 2006 |
|    100 | pereira  | 2007 |
+--------+----------+------+
7 rows in set (0.00 sec)
```

83. Find the average commission for salespeople in London.

```
mysql> select avg(comm) from salespeople where city='london';
+-----------+
| avg(comm) |
+-----------+
|  0.163333 |
+-----------+
1 row in set (0.00 sec)
```

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

```
mysql> select o.* from salespeople s,customer c, orders o where c.cname='hoffman
' and s.snum=c.snum and c.cnum=o.cnum;
+------+--------+------------+------+
| onum | amt    | odate      | cnum |
+------+--------+------------+------+
| 3003 | 767.19 | 1996-10-03 | 2001 |
+------+--------+------------+------+
```

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

```
mysql> select *from salespeople where comm between 0.10 and 0.12 ;
+------+----------+----------+------+
| snum | sname    | city     | comm |
+------+----------+----------+------+
| 1001 | peel     | london   | 0.12 |
| 1003 | axel rod | new york | 0.10 |
| 1004 | motika   | london   | 0.11 |
+------+----------+----------+------+
3 rows in set (0.22 sec)
```

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

```
mysql> select sname,city from salespeople where city = 'london' and comm>0.10;
+--------+--------+
| sname  | city   |
+--------+--------+
| peel   | london |
| motika | london |
| Fran   | london |
+--------+--------+
3 rows in set (0.00 sec)
```

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));

```
mysql> select *from orders where( amt< 1000 or not (odate = '1996-10-03' and cnu
m > 2003));
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3001 |   18.69 | 1996-10-03 | 2008 |
| 3003 |  767.19 | 1996-10-03 | 2001 |
| 3005 | 5160.45 | 1996-10-03 | 2003 |
| 3007 |   75.75 | 1996-10-04 | 2002 |
| 3008 | 4723.00 | 1996-10-05 | 2006 |
| 3009 | 1713.23 | 1996-10-04 | 2002 |
| 3010 | 1309.95 | 1996-10-06 | 2004 |
| 3011 | 9891.88 | 1996-10-06 | 2006 |
+------+---------+------------+------+
8 rows in set (0.00 sec)
```

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

```
mysql> select min(o.amt),c.cname from orders o,customer c where c.cnum=o.cnum gr
oup by c.cname;
+------------+----------+
| min(o.amt) | cname    |
+------------+----------+
|      18.69 | cisneros |
|    4723.00 | clemens  |
|      75.75 | Giovanni |
|    1309.95 | Grass    |
|     767.19 | Hoffman  |
|    5160.45 | Liu      |
|    1900.10 | pereira  |
+------------+----------+
7 rows in set (0.04 sec)
```

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

```
mysql> select *from customer where substring(cname,1,1)='g' order by cnum limit
1;
+------+----------+------+--------+------+
| cnum | cname    | city | rating | snum |
+------+----------+------+--------+------+
| 2002 | Giovanni | rome |    200 | 1003 |
+------+----------+------+--------+------+
1 row in set (0.00 sec)
```

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

```
mysql> select count(*) as non_null_city from customer where city <> 'null';
+---------------+
| non_null_city |
+---------------+
|             7 |
+---------------+
1 row in set (0.00 sec)
```

91. Find the average amount from the Orders table.

```
mysql> select avg(amt) from orders;
+-------------+
| avg(amt)    |
+-------------+
| 2665.840000 |
+-------------+
1 row in set (0.00 sec)
```

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);

```
mysql> select *from orders where not (odate = '1996-10-03' or cnum>2006) and amt
>=1500;
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3008 | 4723.00 | 1996-10-05 | 2006 |
| 3009 | 1713.23 | 1996-10-04 | 2002 |
| 3011 | 9891.88 | 1996-10-06 | 2006 |
+------+---------+------------+------+
3 rows in set (0.00 sec)
```

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

```
mysql> select *From customer where city <> 'san jose' and rating > 200;
+------+-------+--------+--------+------+
| cnum | cname | city   | rating | snum |
+------+-------+--------+--------+------+
| 2004 | Grass | berlin |    300 | 1002 |
+------+-------+--------+--------+------+
1 row in set (0.00 sec)
```

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

```
mysql> select *from salespeople;
+------+----------+-----------+------+
| snum | sname    | city      | comm |
+------+----------+-----------+------+
| 1001 | peel     | london    | 0.12 |
| 1002 | serres   | san jose  | 0.13 |
| 1003 | axel rod | new york  | 0.10 |
| 1004 | motika   | london    | 0.11 |
| 1005 | Fran     | london    | 0.26 |
| 1007 | rifkin   | barcelona | 0.15 |
+------+----------+-----------+------+
6 rows in set (0.00 sec)

mysql> select *from salespeople where comm >+0.12 or comm<0.15;
+------+----------+-----------+------+
| snum | sname    | city      | comm |
+------+----------+-----------+------+
| 1001 | peel     | london    | 0.12 |
| 1002 | serres   | san jose  | 0.13 |
| 1003 | axel rod | new york  | 0.10 |
| 1004 | motika   | london    | 0.11 |
| 1005 | Fran     | london    | 0.26 |
| 1007 | rifkin   | barcelona | 0.15 |
+------+----------+-----------+------+
6 rows in set (0.05 sec)
```

95. Evaluate the following query : SELECT * FROM orders WHERE NOT ((odate = 10/03/96 AND snum > 1002) OR amt > 2000.00);

```
mysql> select *from orders where not (( odate ='1996-10-03' and cnum > 2002) or
amt>2000);
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3003 |  767.19 | 1996-10-03 | 2001 |
| 3007 |   75.75 | 1996-10-04 | 2002 |
| 3009 | 1713.23 | 1996-10-04 | 2002 |
| 3010 | 1309.95 | 1996-10-06 | 2004 |
+------+---------+------------+------+
4 rows in set (0.01 sec)
```

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

```
mysql> select s.sname,c.cname from salespeople s,customer c where s.snum=c.snum
and s.city <> c.city;
+----------+----------+
| sname    | cname    |
+----------+----------+
| axel rod | Giovanni |
| serres   | Grass    |
| motika   | pereira  |
| rifkin   | cisneros |
+----------+----------+
4 rows in set (0.00 sec)

mysql>
```

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

```
mysql> select distinct s.sname from customer c, salespeople s where c.rating < 2
50 and c.snum = s.snum and s.comm>0.11;
+--------+
| sname  |
+--------+
| peel   |
| serres |
+--------+
2 rows in set (0.06 sec)

mysql>
```

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

```
mysql> select distinct s.sname from salespeople s,salespeople s1 where s.city=s1
.
+--------+
| sname  |
+--------+
| motika |
| Fran   |
| peel   |
+--------+
3 rows in set (0.00 sec)
```

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

```
mysql> select sname,sum(amt*comm) as total from orders o,customer c,salespeople
s where s.snum=c.snum and c.cnum = o.cnum group by sname order by total desc lim
it 1;
+-------+-----------+
| sname | total     |
+-------+-----------+
| peel  | 1845.8484 |
+-------+-----------+
1 row in set (0.04 sec)
```

102.List all customers in descending order of customer rating.

```
mysql> select *from customer order by rating desc;
+------+----------+----------+--------+------+
| cnum | cname    | city     | rating | snum |
+------+----------+----------+--------+------+
| 2004 | Grass    | berlin   |    300 | 1002 |
| 2008 | cisneros | san jose |    300 | 1007 |
| 2002 | Giovanni | rome     |    200 | 1003 |
| 2003 | Liu      | san jose |    200 | 1002 |
| 2001 | Hoffman  | london   |    100 | 1001 |
| 2006 | clemens  | London   |    100 | 1001 |
| 2007 | pereira  | rome     |    100 | 1004 |
+------+----------+----------+--------+------+
7 rows in set (0.00 sec)
```

103.On which days has Hoffman placed orders?

```
mysql> select o.* from orders o,customer c where o.cnum=c.cnum and c.cname='hoff
man';
+------+--------+------------+------+
| onum | amt    | odate      | cnum |
+------+--------+------------+------+
| 3003 | 767.19 | 1996-10-03 | 2001 |
+------+--------+------------+------+
1 row in set (0.00 sec)
```

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

```
mysql> select sname from salespeople where sname not in (select s.sname from ord
ers o , customer c,salespeople s where s.snum=c.snum and o.cnum = c.cnum and o.o
date between '1996-10-03' and '1996-10-05');
+-------+
| sname |
+-------+
| Fran  |
+-------+
1 row in set (0.00 sec)
```

112.Which customers have the same rating?

```
mysql> select c.cname,d.cname,c.rating from customer c,customer d  where c.ratin
g = d.rating and c.cnum != d.cnum and c.cname < d.cname;
+----------+---------+--------+
| cname    | cname   | rating |
+----------+---------+--------+
| clemens  | Hoffman |    100 |
| Giovanni | Liu     |    200 |
| cisneros | Grass   |    300 |
| Hoffman  | pereira |    100 |
| clemens  | pereira |    100 |
+----------+---------+--------+
5 rows in set (0.00 sec)
```

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

```
mysql> select *from orders where amt > (select avg(amt) from orders where odate
= '1996-10-04');
+------+---------+------------+------+
| onum | amt     | odate      | cnum |
+------+---------+------------+------+
| 3002 | 1900.10 | 1996-10-03 | 2007 |
| 3005 | 5160.45 | 1996-10-03 | 2003 |
| 3006 | 1098.16 | 1996-10-03 | 2008 |
| 3008 | 4723.00 | 1996-10-05 | 2006 |
| 3009 | 1713.23 | 1996-10-04 | 2002 |
| 3010 | 1309.95 | 1996-10-06 | 2004 |
| 3011 | 9891.88 | 1996-10-06 | 2006 |
+------+---------+------------+------+
7 rows in set (0.00 sec)
```

114.Which customers have above average orders?

```
mysql> select distinct cnum from orders where amt > (select avg(amt) from orders
);
+------+
| cnum |
+------+
| 2003 |
| 2006 |
+------+
2 rows in set (0.00 sec)
```

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

```
mysql> select cnum from customer where (rating > (select avg(rating) from custom
er where city = 'san jose' group by city));
+------+
| cnum |
+------+
| 2004 |
| 2008 |
+------+
2 rows in set (0.00 sec)
```

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.

```
mysql> select s.sname , sum(o.amt) from salespeople s,orders o, customer c where
 s.snum=c.snum and c.cnum = o.cnum group by s.sname having sum(o.amt) > (select
max(amt) from orders);
+-------+------------+
| sname | sum(o.amt) |
+-------+------------+
| peel  |   15382.07 |
+-------+------------+
1 row in set (0.00 sec)
```

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

```
mysql> select a.snum,a.sname from salespeople a,customer b where a.snum=b.snum g
roup by b.snum having count(b.snum)>1;
+------+--------+
| snum | sname  |
+------+--------+
| 1001 | peel   |
| 1002 | serres |
+------+--------+
2 rows in set (0.29 sec)
```

118.Select all salespersons by name and number who have customers in their city whom they don't service.

```
mysql> select distinct s.sname,s.snum from salespeople s,customer c where s.city
 in (select city from customer) and s.snum != c.snum and s.city =c.city;
+--------+------+
| sname  | snum |
+--------+------+
| motika | 1004 |
| Fran   | 1005 |
| serres | 1002 |
+--------+------+
3 rows in set (0.05 sec)
```

119.Which customers' rating should be lowered?

```
mysql> select cname from customer where rating = (select min(rating) from custom
er);
+---------+
| cname   |
+---------+
| Hoffman |
| clemens |
| pereira |
+---------+
3 rows in set (0.01 sec)
```

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

```
mysql> select distinct 'possible' as can_assign_salesperson_berlin from customer
 where exists(select cname,city from customer where city ='berlin');
+------------------------------+
| can_assign_salesperson_berlin |
+------------------------------+
| possible                     |
+------------------------------+
1 row in set (0.06 sec)
```