1. List all the columns of the Salespeople table.

describe salespeople;

+-------+--------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-------+--------------+------+-----+---------+-------+

| snum | int(11) | NO | PRI | NULL | |

| sname | varchar(30) | NO | | NULL | |

| city | varchar(30) | NO | | NULL | |

| comm | decimal(4,2) | NO | | NULL | |

+-------+--------------+------+-----+---------+-------+

4 rows in set (0.20 sec)

2. List all customers with a rating of 100.

select \* from customer where rating=100;

+------+---------+--------+--------+------+

| cnum | cname | city | rating | snum |

+------+---------+--------+--------+------+

| 2001 | Hoffman | London | 100 | 1001 |

| 2006 | Clemens | London | 100 | 1001 |

| 2007 | Pereira | Rome | 100 | 1004 |

+------+---------+--------+--------+------+

3 rows in set (0.14 sec)

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

select \* from customer where city =NULL;

Empty set (0.00 sec)

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

select s.sname,o.odate,max(o.amt) from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum group by s.snum,o.odate;

+---------+------------+------------+

| sname | odate | max(o.amt) |

+---------+------------+------------+

| Peel | 1996-10-03 | 767.19 |

| Peel | 1996-10-05 | 4723.00 |

| Peel | 1996-10-06 | 9891.88 |

| Serres | 1996-10-03 | 5160.45 |

| Serres | 1996-10-06 | 1309.95 |

| AxelRod | 1996-10-04 | 1713.23 |

| Motika | 1996-10-03 | 1900.10 |

| Rifkin | 1996-10-03 | 1098.16 |

+---------+------------+------------+

8 rows in set (0.00 sec)

5. Arrange the Orders table by descending customer number.

select \* from orders ORDER BY cnum DESC;

+------+---------+------------+------+

| onum | amt | odate | cnum |

+------+---------+------------+------+

| 3001 | 18.69 | 1996-10-03 | 2008 |

| 3006 | 1098.16 | 1996-10-03 | 2008 |

| 3002 | 1900.10 | 1996-10-03 | 2007 |

| 3008 | 4723.00 | 1996-10-05 | 2006 |

| 3011 | 9891.88 | 1996-10-06 | 2006 |

| 3010 | 1309.95 | 1996-10-06 | 2004 |

| 3005 | 5160.45 | 1996-10-03 | 2003 |

| 3007 | 75.75 | 1996-10-04 | 2002 |

| 3009 | 1713.23 | 1996-10-04 | 2002 |

| 3003 | 767.19 | 1996-10-03 | 2001 |

+------+---------+------------+------+

10 rows in set (0.34 sec)

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

select distinct sname from salespeople a,customer b,orders c where a.snum=b.snum and b.cnum=c.cnum;

+---------+

| sname |

+---------+

| Peel |

| Serres |

| AxelRod |

| Motika |

| Rifkin |

+---------+

5 rows in set (1.10 sec)

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

select cname from customer a,salespeople b where a.snum=b.snum and sname=cname;

Empty set (0.10 sec)

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

select snum,sname from salespeople a where(select count(\*) from customer where snum=a.snum)>1;

+------+--------+

| snum | sname |

+------+--------+

| 1001 | Peel |

| 1002 | Serres |

+------+--------+

2 rows in set (0.00 sec)

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

select count(\*) from salespeople s,customer c, orders o where s.snum=c.snum and c.cnum=o.cnum group by sname order by count(\*) desc;

+----------+

| count(\*) |

+----------+

| 3 |

| 2 |

| 2 |

| 2 |

| 1 |

+----------+

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

located in San Jose.

select \* from customer where(select count(\*) from customer where city ='San Jose')>=0;

+------+----------+----------+--------+------+

| 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)

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

select s.sname,c.cname from salespeople s,customer c where s.city=c.city;

+--------+----------+

| sname | cname |

+--------+----------+

| Peel | Hoffman |

| Motika | Hoffman |

| Fran | Hoffman |

| Peel | Clemens |

| Motika | Clemens |

| Fran | Clemens |

| Serres | Cisneros |

+--------+----------+

7 rows in set (0.00 sec)

12. Find the largest order taken by each salesperson.

select s.sname,max(amt) from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum group by s.snum;

+---------+----------+

| sname | max(amt) |

+---------+----------+

| Peel | 9891.88 |

| Serres | 5160.45 |

| AxelRod | 1713.23 |

| Motika | 1900.10 |

| Rifkin | 1098.16 |

+---------+----------+

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

select cnum,cname,city from customer where city='San Jose' and rating >200;

+------+----------+----------+

| cnum | cname | city |

+------+----------+----------+

| 2008 | Cisneros | San Jose |

+------+----------+----------+

1 row in set (0.00 sec)

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

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

+--------+------+--------+

| sname | comm | city |

+--------+------+--------+

| Peel | 0.12 | London |

| Motika | 0.11 | London |

| Fran | 0.26 | London |

+--------+------+--------+

3 rows in set (0.00 sec)

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

select sname,onum,amt,odate from salespeople a,customer c,orders o where a.snum=c.snum and c.cnum=o.cnum and sname='Motika';

+--------+------+---------+------------+

| sname | onum | amt | odate |

+--------+------+---------+------------+

| Motika | 3002 | 1900.10 | 1996-10-03 |

+--------+------+---------+------------+

16. Find all customers with orders on October 3.

select distinct cname,onum,amt,odate from customer c,orders o where c.cnum=o.cnum and odate='1996-10-03';

+----------+------+---------+------------+

| cname | onum | amt | odate |

+----------+------+---------+------------+

| Cisneros | 3001 | 18.69 | 1996-10-03 |

| Pereira | 3002 | 1900.10 | 1996-10-03 |

| Hoffman | 3003 | 767.19 | 1996-10-03 |

| Liu San | 3005 | 5160.45 | 1996-10-03 |

| Cisneros | 3006 | 1098.16 | 1996-10-03 |

+----------+------+---------+------------+

5 rows in set (0.00 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.

select odate,sum(amt) from orders group by odate having sum(amt)>(select max(amt)from orders);

+------------+----------+

| odate | sum(amt) |

+------------+----------+

| 1996-10-06 | 11201.83 |

+------------+----------+

1 row in set (0.47 sec)

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

October 6.

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.

select sname from salespeople a where exists( select b.snum from customer b where a.snum=b.snum and b.rating =300);

+--------+

| sname |

+--------+

| Serres |

| Rifkin |

+--------+

2 rows in s

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

select a.cname,b.cname,a.rating from customer a,customer b where a.rating =b.rating and a.cnum!=b.cnum;

+----------+----------+--------+

| cname | cname | rating |

+----------+----------+--------+

| Clemens | Hoffman | 100 |

| Pereira | Hoffman | 100 |

| Liu San | Giovanni | 200 |

| Giovanni | Liu San | 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.

select cnum,cname from customer c where (cnum-1000)>(select snum from salespeople where sname='serres');

+------+----------+

| cnum | cname |

+------+----------+

| 2003 | Liu San |

| 2004 | Grass |

| 2006 | Clemens |

| 2007 | Pereira |

| 2008 | Cisneros |

+------+----------+

5 rows in set (0.00 sec)

22. Give the salespeopleâ€™s commissions as percentages instead of decimal numbers.

select sname,comm\*100 as commpercentage from salespeople;

+---------+----------------+

| sname | commpercentage |

+---------+----------------+

| Peel | 12.00 |

| Serres | 13.00 |

| AxelRod | 10.00 |

| Motika | 11.00 |

| Fran | 26.00 |

| Rifkin | 15.00 |

+---------+----------------+

6 rows in set (0.02 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.

select s.sname,o.odate,max(o.amt) from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum group by s.snum,o.odate having max(amt)>3000;

+--------+------------+------------+

| sname | odate | max(o.amt) |

+--------+------------+------------+

| Peel | 1996-10-05 | 4723.00 |

| Peel | 1996-10-06 | 9891.88 |

| Serres | 1996-10-03 | 5160.45 |

+--------+------------+------------+

3 rows in set (0.46 sec)

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

select s.snum,s.sname,max(o.amt),o.odate from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum and odate='1996-10-03' group by s.snum;

+------+--------+------------+------------+

| snum | sname | max(o.amt) | odate |

+------+--------+------------+------------+

| 1001 | Peel | 767.19 | 1996-10-03 |

| 1002 | Serres | 5160.45 | 1996-10-03 |

| 1004 | Motika | 1900.10 | 1996-10-03 |

| 1007 | Rifkin | 1098.16 | 1996-10-03 |

+------+--------+------------+------------+

4 rows in set (0.00 sec)

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

select cname from customer where city in(select city from customer where snum=1002);

+----------+

| cname |

+----------+

| liu |

| Grass |

| Cisneros |

+----------+

3 rows in set (0.00 sec)

26. Select all customers with a rating above 200.00.

select cnum,cname,rating from customer where rating>200;

+------+----------+--------+

| cnum | cname | rating |

+------+----------+--------+

| 2004 | Grass | 300 |

| 2008 | Cisneros | 300 |

+------+----------+--------+

2 rows in set (0.04 sec)

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

select s.sname,count(s.sname) from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum group by s.sname;

+---------+----------------+

| sname | count(s.sname) |

+---------+----------------+

| AxelRod | 2 |

| Motika | 1 |

| Peel | 3 |

| Rifkin | 2 |

| Serres | 2 |

+---------+----------------+

5 rows in set (0.00 sec)

28. Write a query that produces all customers serviced by salespeople with a commission above

12%. Output the customerâ€™s name and the salespersonâ€™s rate of commission.

select cname,comm\*100 from salespeople s,customer c where s.snum=c.snum and comm>0.12;

+----------+----------+

| cname | comm\*100 |

+----------+----------+

| liu | 13.00 |

| Grass | 13.00 |

| Cisneros | 15.00 |

+----------+----------+

3 rows in set (0.06 sec)

29. Find salespeople who have multiple customers.

select s.snum,s.sname,count(cnum) from salespeople s,customer c where s.snum=c.snum group by s.snum having count(cnum)>1;

+------+--------+-------------+

| snum | sname | count(cnum) |

+------+--------+-------------+

| 1001 | Peel | 2 |

| 1002 | Serres | 2 |

+------+--------+-------------+

2 rows in set (0.00 sec)

30. Find salespeople with customers located in their city.

select s.sname,c.cname,s.city from salespeople s,customer c where s.snum=c.snum and s.city=c.city;

+--------+---------+----------+

| sname | cname | city |

+--------+---------+----------+

| Peel | Hoffman | London |

| Serres | liu | San Jose |

| Peel | Clemens | London |

+--------+---------+----------+

3 rows in set (0.00 sec)

31. Find all salespeople whose name starts with â€˜Pâ€™ and the fourth character is â€˜lâ€™.

select sname from salespeople where sname like 'p%' and sname like '\_\_\_l%';

+-------+

| sname |

+-------+

| Peel |

+-------+

1 row in set (0.10 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.

select onum,amt,odate from orders where cnum=(select cnum from customer where cname='cisneros');

+------+---------+------------+

| onum | amt | odate |

+------+---------+------------+

| 3001 | 18.69 | 1996-10-03 |

| 3006 | 1098.16 | 1996-10-03 |

+------+---------+------------+

2 rows in set (0.73 sec)

33. Find the largest orders for Serres and Rifkin.

select onum,max(amt) from orders where cnum in(select cnum from customer where snum in (select snum from salespeople where sname='serres' or sname='rifkin')) group by onum;

+------+----------+

| onum | max(amt) |

+------+----------+

| 3001 | 18.69 |

| 3005 | 5160.45 |

| 3006 | 1098.16 |

| 3010 | 1309.95 |

+------+----------+

4 rows in set (0.01 sec)

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

select snum,sname,comm,city from salespeople;

+------+---------+------+-----------+

| snum | sname | comm | city |

+------+---------+------+-----------+

| 1001 | Peel | 0.12 | London |

| 1002 | Serres | 0.13 | San Jose |

| 1003 | AxelRod | 0.10 | New York |

| 1004 | Motika | 0.11 | London |

| 1005 | Fran | 0.26 | London |

| 1007 | Rifkin | 0.15 | Barcelona |

+------+---------+------+-----------+

6 rows in set (0.65 sec)

35. Select all customers whose names fall in between â€˜Aâ€™ and â€˜Gâ€™ alphabetical range.

select \* from customer where substring(cname,1,1) between 'A' and 'G';

+------+----------+----------+--------+------+

| cnum | cname | city | rating | snum |

+------+----------+----------+--------+------+

| 2002 | Giovanni | Rome | 200 | 1003 |

| 2004 | Grass | Berlin | 300 | 1002 |

| 2006 | Clemens | London | 100 | 1001 |

| 2008 | Cisneros | San Jose | 300 | 1007 |

+------+----------+----------+--------+------+

4 rows in set (0.14 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.

select onum,amt,odate from orders where amt>(select avg(amt) from orders where odate='1996-10-04');

+------+---------+------------+

| onum | amt | odate |

+------+---------+------------+

| 3002 | 1900.10 | 1996-10-03 |

| 3005 | 5160.45 | 1996-10-03 |

| 3006 | 1098.16 | 1996-10-03 |

| 3008 | 4723.00 | 1996-10-05 |

| 3009 | 1713.23 | 1996-10-04 |

| 3010 | 1309.95 | 1996-10-06 |

| 3011 | 9891.88 | 1996-10-06 |

+------+---------+------------+

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.

select cnum,cname from customer where rating in ( select max(rating) from customer group by city);

+------+----------+

| cnum | cname |

+------+----------+

| 2001 | Hoffman |

| 2002 | Giovanni |

| 2003 | liu |

| 2004 | Grass |

| 2006 | Clemens |

| 2007 | Pereira |

| 2008 | Cisneros |

+------+----------+

7 rows in set (0.00 sec)

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

select count(onum),odate from orders group by odate order by count(onum) desc;

+-------------+------------+

| count(onum) | odate |

+-------------+------------+

| 5 | 1996-10-03 |

| 2 | 1996-10-04 |

| 2 | 1996-10-06 |

| 1 | 1996-10-05 |

+-------------+------------+

4 rows in set (0.00 sec)

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

San Jose.

select rating,cname from customer where city ='San Jose';

+--------+----------+

| rating | cname |

+--------+----------+

| 200 | liu |

| 300 | Cisneros |

+--------+----------+

2 rows in set (0.01 sec)

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

select cnum,onum,amt,odate from orders where amt<(select max(amt) from orders a,customer b where a.cnum=b.cnum and b.city='San Jose');

+------+------+---------+------------+

| cnum | onum | amt | odate |

+------+------+---------+------------+

| 2008 | 3001 | 18.69 | 1996-10-03 |

| 2007 | 3002 | 1900.10 | 1996-10-03 |

| 2001 | 3003 | 767.19 | 1996-10-03 |

| 2008 | 3006 | 1098.16 | 1996-10-03 |

| 2002 | 3007 | 75.75 | 1996-10-04 |

| 2006 | 3008 | 4723.00 | 1996-10-05 |

| 2002 | 3009 | 1713.23 | 1996-10-04 |

| 2004 | 3010 | 1309.95 | 1996-10-06 |

+------+------+---------+------------+

8 rows in set (0.12 sec)

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

select cnum,onum,amt,odate from orders where amt>(select avg(amt) from orders a,customer b where a.cnum=b.cnum);

+------+------+---------+------------+

| cnum | onum | amt | odate |

+------+------+---------+------------+

| 2003 | 3005 | 5160.45 | 1996-10-03 |

| 2006 | 3008 | 4723.00 | 1996-10-05 |

| 2006 | 3011 | 9891.88 | 1996-10-06 |

+------+------+---------+------------+

3 rows in set (0.00 sec)

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

select city,max(rating) from customer group by city;

+----------+-------------+

| city | max(rating) |

+----------+-------------+

| Berlin | 300 |

| London | 100 |

| Rome | 200 |

| San Jose | 300 |

+----------+-------------+

4 rows in set (0.10 sec)

44. Write a query that calculates the amount of the salespersonâ€™s commission on each order by a

customer with a rating above 100.00.

select sname,(amt\*comm),cname from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum and rating>100;

+---------+------------+----------+

| sname | (amt\*comm) | cname |

+---------+------------+----------+

| AxelRod | 7.5750 | Giovanni |

| AxelRod | 171.3230 | Giovanni |

| Serres | 670.8585 | liu |

| Serres | 170.2935 | Grass |

| Rifkin | 2.8035 | Cisneros |

| Rifkin | 164.7240 | Cisneros |

+---------+------------+----------+

6 rows in set (0.00 sec)

45. Count the customers with ratings above San Joseâ€™s average.

select count(cnum)from customer where rating>(select avg(rating) from customer where city='San Jose');

+-------------+

| count(cnum) |

+-------------+

| 2 |

+-------------+

1 row in set (0.01 sec)

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

with the order reversed.

(select \* from salespeople) union all (select\* from salespeople) order by sname desc;

+------+---------+-----------+------+

| snum | sname | city | comm |

+------+---------+-----------+------+

| 1002 | Serres | San Jose | 0.13 |

| 1002 | Serres | San Jose | 0.13 |

| 1007 | Rifkin | Barcelona | 0.15 |

| 1007 | Rifkin | Barcelona | 0.15 |

| 1001 | Peel | London | 0.12 |

| 1001 | Peel | London | 0.12 |

| 1004 | Motika | London | 0.11 |

| 1004 | Motika | London | 0.11 |

| 1005 | Fran | London | 0.26 |

| 1005 | Fran | London | 0.26 |

| 1003 | AxelRod | New York | 0.10 |

| 1003 | AxelRod | New York | 0.10 |

+------+---------+-----------+------+

12 rows in set (0.03 sec)

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

select snum,sname from salespeople where city ='Barcelona' or city='London';

+------+--------+

| snum | sname |

+------+--------+

| 1001 | Peel |

| 1004 | Motika |

| 1005 | Fran |

| 1007 | Rifkin |

+------+--------+

4 rows in set (0.00 sec)

48. Find all salespeople with only one customer.

select sname from salespeople a where (select count(cnum) from customer b where a.snum=b.snum)=1;

+---------+

| sname |

+---------+

| AxelRod |

| Motika |

| Rifkin |

+---------+

3 rows in set (0.12 sec)

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

single salesperson.

select a.cnum,a.cname,b.cnum,b.cname,a.snum from customer a,customer b where a.cnum!=b.cnum and a.snum=b.snum;

+------+---------+------+---------+------+

| cnum | cname | cnum | cname | snum |

+------+---------+------+---------+------+

| 2006 | Clemens | 2001 | Hoffman | 1001 |

| 2004 | Grass | 2003 | liu | 1002 |

| 2003 | liu | 2004 | Grass | 1002 |

| 2001 | Hoffman | 2006 | Clemens | 1001 |

+------+---------+------+---------+------+

4 rows in set (0.00 sec)

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

select onum,amt,odate from orders where amt>1000;

+------+---------+------------+

| onum | amt | odate |

+------+---------+------------+

| 3002 | 1900.10 | 1996-10-03 |

| 3005 | 5160.45 | 1996-10-03 |

| 3006 | 1098.16 | 1996-10-03 |

| 3008 | 4723.00 | 1996-10-05 |

| 3009 | 1713.23 | 1996-10-04 |

| 3010 | 1309.95 | 1996-10-06 |

| 3011 | 9891.88 | 1996-10-06 |

+------+---------+------------+

7 rows in set (0.01 sec)

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

select onum,cname from customer c,orders o where c.cnum=o.cnum group by onum;

+------+----------+

| onum | cname |

+------+----------+

| 3001 | Cisneros |

| 3002 | Pereira |

| 3003 | Hoffman |

| 3005 | liu |

| 3006 | Cisneros |

| 3007 | Giovanni |

| 3008 | Clemens |

| 3009 | Giovanni |

| 3010 | Grass |

| 3011 | Clemens |

+------+----------+

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

select distinct a.snum,a.sname from salespeople a,customer b where a.snum!=b.snum and a.city=b.city;

+------+--------+

| snum | sname |

+------+--------+

| 1004 | Motika |

| 1005 | Fran |

| 1002 | Serres |

+------+--------+

3 rows in set (0.00 sec)

select snum,sname from salespeople where snum in ( select distinct a.snum from salespeople a,customer b where b.snum!=a.snum and b.city=a.city);

+------+--------+

| snum | sname |

+------+--------+

| 1004 | Motika |

| 1005 | Fran |

| 1002 | Serres |

+------+--------+

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?

select cnum,cname,rating from customer where rating >= any(select rating from salespeople s,customer c where s.snum=c.snum and s.sname='serres');

+------+----------+--------+

| cnum | cname | rating |

+------+----------+--------+

| 2002 | Giovanni | 200 |

| 2003 | liu | 200 |

| 2004 | Grass | 300 |

| 2008 | Cisneros | 300 |

+------+----------+--------+

4 rows in set (0.06 sec)

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

select onum,amt,odate from orders where odate='1996-10-03' or odate ='1996-10-04';

+------+---------+------------+

| 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 |

| 3009 | 1713.23 | 1996-10-04 |

+------+---------+------------+

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.

select onum,cname,a.cnum from customer a,orders b where a.cnum=b.cnum;

+------+----------+------+

| onum | cname | cnum |

+------+----------+------+

| 3003 | Hoffman | 2001 |

| 3007 | Giovanni | 2002 |

| 3009 | Giovanni | 2002 |

| 3005 | liu | 2003 |

| 3010 | Grass | 2004 |

| 3008 | Clemens | 2006 |

| 3011 | Clemens | 2006 |

| 3002 | Pereira | 2007 |

| 3001 | Cisneros | 2008 |

| 3006 | Cisneros | 2008 |

+------+----------+------+

10 rows in set (0.01 sec)

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

select cname,rating from customer where rating > (select max(rating) from customer where city='rome');

+----------+--------+

| cname | rating |

+----------+--------+

| Grass | 300 |

| Cisneros | 300 |

+----------+--------+

2 rows in set (0.12 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.

select \* from customer where 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.

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 (0.13 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.

select s.snum,sname,sum(amt) as totalorder from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum group by s.snum having totalorder>(select max(amt) from orders);

+------+-------+------------+

| snum | sname | totalorder |

+------+-------+------------+

| 1001 | 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.

select \* from orders where amt=0 or amt=NULL;

Empty 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.

select sname,cname,rating from salespeople a,customer b where substring(sname,1,1)<substring(cname,1,1) and a.snum=b.snum and rating<200;

+--------+---------+--------+

| sname | cname | rating |

+--------+---------+--------+

| Motika | Pereira | 100 |

+--------+---------+--------+

1 row in set (0.00 sec)

62. List all Salespeopleâ€™s names and the Commission they have earned.

select sname,(comm\*amt) as commission from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum;

+---------+------------+

| sname | commission |

+---------+------------+

| Rifkin | 2.8035 |

| Motika | 209.0110 |

| Peel | 92.0628 |

| Serres | 670.8585 |

| Rifkin | 164.7240 |

| AxelRod | 7.5750 |

| Peel | 566.7600 |

| AxelRod | 171.3230 |

| Serres | 170.2935 |

| Peel | 1187.0256 |

+---------+------------+

10 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 Hoffmanâ€™s CNUM rather than his rating, so that it would still be usable if his rating changed.

select cname,rating from customer where rating=(select rating from customer where cnum=(select cnum from customer where cname='Hoffman'));

+---------+--------+

| cname | rating |

+---------+--------+

| Hoffman | 100 |

| Clemens | 100 |

| Pereira | 100 |

+---------+--------+

3 rows in set (0.11 sec)

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

select sname from salespeople a where sname< any (Select cname from customer b where a.snum=b.snum);

+---------+

| sname |

+---------+

| AxelRod |

| Motika |

+---------+

2 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.

select cname,rating from customer c,orders o where c.cnum=o.cnum and amt>(select avg(amt) from orders);

+---------+--------+

| cname | rating |

+---------+--------+

| liu | 200 |

| Clemens | 100 |

| Clemens | 100 |

+---------+--------+

3 rows in set (0.00 sec)

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

select sum(amt) from orders;

+----------+

| sum(amt) |

+----------+

| 26658.40 |

+----------+

1 row in set (0.00 sec)

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

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).

select count(rating) from customer where rating is not null;

+---------------+

| count(rating) |

+---------------+

| 7 |

+---------------+

1 row in set (0.00 sec)

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

select onum,sname,cname from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum;

+------+---------+----------+

| onum | sname | cname |

+------+---------+----------+

| 3003 | Peel | Hoffman |

| 3007 | AxelRod | Giovanni |

| 3009 | AxelRod | 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.

select sname,(comm\*amt) as commission from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum and s.city='London';

+--------+------------+

| sname | commission |

+--------+------------+

| Peel | 92.0628 |

| Peel | 566.7600 |

| Peel | 1187.0256 |

| Motika | 209.0110 |

+--------+------------+

4 rows in set (0.09 sec)

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

select sname from salespeople a where a.snum = any(select b.snum from customer b where a.city!=b.city and a.snum=b.snum);

+---------+

| sname |

+---------+

| AxelRod |

| Serres |

| Motika |

| Rifkin |

+---------+

4 rows in set (0.00 sec)

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

select a.snum,sname from salespeople a where exists ( select cnum from customer b where a.city=b.city and a.snum!=b.snum);

+------+--------+

| snum | sname |

+------+--------+

| 1002 | Serres |

| 1004 | Motika |

| 1005 | Fran |

+------+--------+

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.)

select cnum,cname from customer where snum in (select snum from salespeople where sname='peel' or sname='motika');

+------+---------+

| cnum | cname |

+------+---------+

| 2001 | Hoffman |

| 2006 | Clemens |

| 2007 | 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.)

select count(distinct(c.snum)),odate from orders o,customer c where c.cnum=o.cnum group by odate;

+-------------------------+------------+

| count(distinct(c.snum)) | odate |

+-------------------------+------------+

| 4 | 1996-10-03 |

| 1 | 1996-10-04 |

| 1 | 1996-10-05 |

| 2 | 1996-10-06 |

+-------------------------+------------+

4 rows in set (0.00 sec)

75. Find all orders attributed to salespeople in London.

select \* from orders where cnum in(select cnum from customer where snum in (select snum from salespeople where 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 (0.00 sec)

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

select cname,onum,amt from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum and s.city!=c.city;

+----------+------+---------+

| cname | onum | amt |

+----------+------+---------+

| Giovanni | 3007 | 75.75 |

| Giovanni | 3009 | 1713.23 |

| Grass | 3010 | 1309.95 |

| Pereira | 3002 | 1900.10 |

| Cisneros | 3001 | 18.69 |

| Cisneros | 3006 | 1098.16 |

+----------+------+---------+

6 rows in set (0.00 sec)

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

select snum,sname from salespeople where snum in( select snum from customer where cnum in(select cnum from orders group by cnum having count(odate)>1));

+------+---------+

| snum | sname |

+------+---------+

| 1001 | Peel |

| 1003 | AxelRod |

| 1007 | Rifkin |

+------+---------+

3 rows in set (0.00 sec)

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 customer being selected) with orders in the Orders table.

select \* from customer where snum in (select b.snum from orders a,customer b where a.cnum=b.cnum group by b.snum having count(distinct(a.cnum))>1);

+------+---------+----------+--------+------+

| cnum | cname | city | rating | snum |

+------+---------+----------+--------+------+

| 2001 | Hoffman | London | 100 | 1001 |

| 2003 | liu | San Jose | 200 | 1002 |

| 2004 | Grass | Berlin | 300 | 1002 |

| 2006 | Clemens | London | 100 | 1001 |

+------+---------+----------+--------+------+

4 rows in set (0.11 sec)

79. Write a query that selects all customers whose names begin with â€˜Câ€™.

select cname from customer where cname like 'C%';

+----------+

| cname |

+----------+

| Clemens |

| Cisneros |

+----------+

2 rows in set (0.01 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).

select concat('For the city ',city) as City,concat('The highest rating is ',max(rating)) as Rating from customer group by city;

+-----------------------+---------------------------+

| City | Rating |

+-----------------------+---------------------------+

| For the city Berlin | The highest rating is 300 |

| For the city London | The highest rating is 100 |

| For the city Rome | The highest rating is 200 |

| For the city San Jose | The highest rating is 300 |

+-----------------------+---------------------------+

4 rows in set, 1 warning (0.00 sec)

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

select distinct(s.snum) from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum;

+------+

| snum |

+------+

| 1001 |

| 1002 |

| 1003 |

| 1004 |

| 1007 |

+------+

5 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 customerâ€™s names and numbers.

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.

select avg(comm\*amt) from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum and s.city='London';

+---------------+

| avg(comm\*amt) |

+---------------+

| 513.71485000 |

+---------------+

1 row in set (0.00 sec)

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

select \* from orders where cnum in (select cnum from customer where snum in (select snum from customer where cnum=2001));

+------+---------+------------+------+

| 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 |

+------+---------+------------+------+

3 rows in set (0.00 sec)

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

select \* from salespeople where comm>=0.10 and comm<=0.12;

+------+---------+----------+------+

| snum | sname | city | comm |

+------+---------+----------+------+

| 1001 | Peel | London | 0.12 |

| 1003 | AxelRod | New York | 0.10 |

| 1004 | Motika | London | 0.11 |

+------+---------+----------+------+

3 rows in set (0.00 sec)

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

select sname,city from salespeople where city ='London' and comm>0.10;

+--------+--------+

| sname | city |

+--------+--------+

| Peel | London |

| Motika | London |

| Fran | London |

+--------+--------+

3 rows in set (0.01 sec)

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

select \* from orders where (amt < 1000 OR NOT (odate = '1996-10-03' AND cnum > 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 customerâ€™s smallest order.

select cname,min(amt) from customer c, orders o where c.cnum=o.cnum group by c.cnum;

+----------+----------+

| cname | min(amt) |

+----------+----------+

| Hoffman | 767.19 |

| Giovanni | 75.75 |

| liu | 5160.45 |

| Grass | 1309.95 |

| Clemens | 4723.00 |

| Pereira | 1900.10 |

| Cisneros | 18.69 |

+----------+----------+

7 rows in set (0.00 sec)

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

select min(cname) from customer where cname like 'g%';

+------------+

| min(cname) |

+------------+

| Giovanni |

+------------+

1 row in set (0.00 sec)

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

select count(distinct(city)) from customer where city is not null;

+-----------------------+

| count(distinct(city)) |

+-----------------------+

| 4 |

+-----------------------+

1 row in set (0.00 sec)

91. Find the average amount from the Orders table.

select avg(amt) from orders;

+-------------+

| avg(amt) |

+-------------+

| 2665.840000 |

+-------------+

1 row in set (0.01 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);

select \* from orders o,salespeople s,customer c where s.snum=c.snum and c.cnum=o.cnum and not (odate = '1996-10-03' OR s.snum > 1006) and amt >= 1500;

+------+---------+------------+------+------+---------+----------+------+------+----------+--------+--------+------+

| onum | amt | odate | cnum | snum | sname | city | comm | cnum | cname | city | rating | snum |

+------+---------+------------+------+------+---------+----------+------+------+----------+--------+--------+------+

| 3008 | 4723.00 | 1996-10-05 | 2006 | 1001 | Peel | London | 0.12 | 2006 | Clemens | London | 100 | 1001 |

| 3009 | 1713.23 | 1996-10-04 | 2002 | 1003 | AxelRod | New York | 0.10 | 2002 | Giovanni | Rome | 200 | 1003 |

| 3011 | 9891.88 | 1996-10-06 | 2006 | 1001 | Peel | London | 0.12 | 2006 | Clemens | London | 100 | 1001 |

+------+---------+------------+------+------+---------+----------+------+------+----------+--------+--------+------+

3 rows in set (0.00 sec)

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

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);

select \* from salespeople where (0.14>comm >= 0.12 );

+------+---------+----------+------+

| snum | sname | city | comm |

+------+---------+----------+------+

| 1001 | Peel | London | 0.12 |

| 1002 | Serres | San Jose | 0.13 |

| 1003 | AxelRod | New York | 0.10 |

| 1004 | Motika | London | 0.11 |

+------+---------+----------+------+

4 rows in set (0.00 sec)

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

select \* from salespeople s,customer c,orders o where not ((odate = '1996-10-03' and s.snum > 1002) or amt > 2000.00) and s.snum=c.snum and c.cnum=o.cnum;

+------+---------+----------+------+------+----------+--------+--------+------+------+---------+------------+------+

| snum | sname | city | comm | cnum | cname | city | rating | snum | onum | amt | odate | cnum |

+------+---------+----------+------+------+----------+--------+--------+------+------+---------+------------+------+

| 1001 | Peel | London | 0.12 | 2001 | Hoffman | London | 100 | 1001 | 3003 | 767.19 | 1996-10-03 | 2001 |

| 1003 | AxelRod | New York | 0.10 | 2002 | Giovanni | Rome | 200 | 1003 | 3007 | 75.75 | 1996-10-04 | 2002 |

| 1003 | AxelRod | New York | 0.10 | 2002 | Giovanni | Rome | 200 | 1003 | 3009 | 1713.23 | 1996-10-04 | 2002 |

| 1002 | Serres | San Jose | 0.13 | 2004 | Grass | Berlin | 300 | 1002 | 3010 | 1309.95 | 1996-10-06 | 2004 |

+------+---------+----------+------+------+----------+--------+--------+------+------+---------+------------+------+

4 rows in set (0.00 sec)

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

select s.snum,s.sname,s.city,c.snum,c.city from salespeople s,customer c where s.snum=c.snum and s.city!=c.city;

+------+---------+-----------+------+----------+

| snum | sname | city | snum | city |

+------+---------+-----------+------+----------+

| 1003 | AxelRod | New York | 1003 | Rome |

| 1002 | Serres | San Jose | 1002 | Berlin |

| 1004 | Motika | London | 1004 | Rome |

| 1007 | Rifkin | Barcelona | 1007 | San Jose |

+------+---------+-----------+------+----------+

4 rows in set (0.00 sec)

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

select sname,comm from salespeople where snum in (select snum from customer where rating<250) and comm>0.11;

+--------+------+

| sname | comm |

+--------+------+

| Peel | 0.12 |

| Serres | 0.13 |

+--------+------+

2 rows in set (0.00 sec)

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

select s.sname from salespeople s,salespeople c where s.city=c.city and s.comm!=c.comm;

+--------+

| sname |

+--------+

| Motika |

| Fran |

| Peel |

| Fran |

| Peel |

| Motika |

+--------+

6 rows in set (0.10 sec)

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

select sname,(comm\*amt) as commission from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum order by commission desc limit 1;

+-------+------------+

| sname | commission |

+-------+------------+

| Peel | 1187.0256 |

+-------+------------+

1 row in set (0.00 sec)

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

select a.cname,a.rating,count(b.cnum) as totorder from customer a,orders b where a.cnum=b.cnum group by cname,rating order by totorder desc;

+----------+--------+----------+

| cname | rating | totorder |

+----------+--------+----------+

| Clemens | 100 | 2 |

| Cisneros | 300 | 2 |

| Giovanni | 200 | 2 |

| liu | 200 | 1 |

| Grass | 300 | 1 |

| Pereira | 100 | 1 |

| Hoffman | 100 | 1 |

+----------+--------+----------+

7 rows in set (0.00 sec)

No, the customer who has placed maximum number of orders did not have maximum rating.

101.Has the customer who has spent the largest amount of money been given the highest rating?

select cname,rating,sum(amt) as totorder from customer c,orders o where c.cnum=o.cnum group by cname,rating order by totorder desc;

+----------+--------+----------+

| cname | rating | totorder |

+----------+--------+----------+

| Clemens | 100 | 14614.88 |

| liu | 200 | 5160.45 |

| Pereira | 100 | 1900.10 |

| Giovanni | 200 | 1788.98 |

| Grass | 300 | 1309.95 |

| Cisneros | 300 | 1116.85 |

| Hoffman | 100 | 767.19 |

+----------+--------+----------+

7 rows in set (0.00 sec)

No the customer who has spent huge amount hs not been given maximum rating.

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

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?

select odate from orders where cnum in(select cnum from customer where cname='Hoffman');

+------------+

| odate |

+------------+

| 1996-10-03 |

+------------+

1 row in set (0.00 sec)

104.Do all salespeople have different commissions?

select a.comm from salespeople a,salespeople b where a.snum!=b.snum and a.comm=b.comm;

Empty set (0.00 sec)

Yes all salespeople have different commissions.

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

select distinct(sname) from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum and odate between'1996-10-03' and '1996

+---------+

| sname |

+---------+

| Rifkin |

| Motika |

| Peel |

| Serres |

| AxelRod |

+---------+

5 rows in set (0.00 sec)

106.How many salespersons have succeeded in getting orders?

select count(distinct(snum)) from customer;

+-----------------------+

| count(distinct(snum)) |

+-----------------------+

| 5 |

+-----------------------+

1 row in set (0.11 sec)

107.How many customers have placed orders?

select count(distinct(cnum)) from orders;

+-----------------------+

| count(distinct(cnum)) |

+-----------------------+

| 7 |

+-----------------------+

1 row in set (0.00 sec)

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

select sname,max(amt) as amount,odate from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum group by sname,odate order by amount desc;

+---------+---------+------------+

| sname | amount | odate |

+---------+---------+------------+

| Peel | 9891.88 | 1996-10-06 |

| Serres | 5160.45 | 1996-10-03 |

| Peel | 4723.00 | 1996-10-05 |

| Motika | 1900.10 | 1996-10-03 |

| AxelRod | 1713.23 | 1996-10-04 |

| Serres | 1309.95 | 1996-10-06 |

| Rifkin | 1098.16 | 1996-10-03 |

| Peel | 767.19 | 1996-10-03 |

+---------+---------+------------+

8 rows in set (0.00 sec)

109.Who is the most successful salesperson?

select s.snum,s.sname,sum(amt) as orderamt from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum group by s.snum;

+------+---------+----------+

| snum | sname | orderamt |

+------+---------+----------+

| 1001 | Peel | 15382.07 |

| 1002 | Serres | 6470.40 |

| 1003 | AxelRod | 1788.98 |

| 1004 | Motika | 1900.10 |

| 1007 | Rifkin | 1116.85 |

+------+---------+----------+

5 rows in set (0.00 sec)

Peel is most successful salesperson.

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

select c.cname,c.rating,sum(amt) as totorder from customer c,orders o where c.cnum =o.cnum group by c.cname,c.rating order by totorder desc;

+----------+--------+----------+

| cname | rating | totorder |

+----------+--------+----------+

| Clemens | 100 | 14614.88 |

| liu | 200 | 5160.45 |

| Pereira | 100 | 1900.10 |

| Giovanni | 200 | 1788.98 |

| Grass | 300 | 1309.95 |

| Cisneros | 300 | 1116.85 |

| Hoffman | 100 | 767.19 |

+----------+--------+----------+

7 rows in set (0.00 sec)

Hoffman is the worst customer.

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

select sname,cname,amt from salespeople s,customer c,orders o where s.snum in (select snum from salespeople where sname='peel' and sname='serres') and amt<200 and s.snum=c.snum and c.cnum=o.cnum;

Empty set (0.00 sec)

112.Which customers have the same rating?

select a.cnum,a.cname,a.rating from customer a,customer b where a.rating=b.rating and a.cnum!=b.cnum;

+------+----------+--------+

| cnum | cname | rating |

+------+----------+--------+

| 2006 | Clemens | 100 |

| 2007 | Pereira | 100 |

| 2003 | liu | 200 |

| 2002 | Giovanni | 200 |

| 2008 | Cisneros | 300 |

| 2001 | Hoffman | 100 |

| 2007 | Pereira | 100 |

| 2001 | Hoffman | 100 |

| 2006 | Clemens | 100 |

| 2004 | Grass | 300 |

+------+----------+--------+

10 rows in set (0.00 sec)

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

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?

select cnum,cname from customer where cnum in(select cnum from orders where amt>(select avg(amt) from orders));

+------+---------+

| cnum | cname |

+------+---------+

| 2003 | liu |

| 2006 | Clemens |

+------+---------+

2 rows in set (0.00 sec)

115.List all customers with ratings above San Joseâ€™s average.

select cnum,cname from customer where rating>(select avg(rating) from customer where city='San Jose');

+------+----------+

| cnum | cname |

+------+----------+

| 2004 | Grass |

| 2008 | Cisneros |

+------+----------+

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.

select sname,sum(amt) as Amount from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum group by s.snum having Amount>(select max(amt) from orders);

+-------+----------+

| sname | Amount |

+-------+----------+

| Peel | 15382.07 |

+-------+----------+

1 row in set (0.00 sec)

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

select snum,sname from salespeople where snum in (select snum from customer group by snum having count(snum)>1);

+------+--------+

| snum | sname |

+------+--------+

| 1001 | Peel |

| 1002 | Serres |

+------+--------+

2 rows in set (0.00 sec)

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

select distinct (a.snum),sname from salespeople a,customer c where a.snum=c.snum and a.city!=c.city;

+------+---------+

| snum | sname |

+------+---------+

| 1003 | AxelRod |

| 1002 | Serres |

| 1004 | Motika |

| 1007 | Rifkin |

+------+---------+

4 rows in set (0.12 sec)

119.Which customersâ€™ rating should be lowered?

select cname,sum(amt) as totalorder,rating from customer c,orders o where c.cnum=o.cnum group by cname,rating order by totalorder desc;

+----------+------------+--------+

| cname | totalorder | rating |

+----------+------------+--------+

| Clemens | 14614.88 | 100 |

| liu | 5160.45 | 200 |

| Pereira | 1900.10 | 100 |

| Giovanni | 1788.98 | 200 |

| Grass | 1309.95 | 300 |

| Cisneros | 1116.85 | 300 |

| Hoffman | 767.19 | 100 |

+----------+------------+--------+

7 rows in set (0.02 sec)

Hoffman's rating should be lowered as his totalorder is the lowest one.

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

select sname,city from salespeople where snum in (select snum from customer where city ='Berlin');

+--------+----------+

| sname | city |

+--------+----------+

| Serres | San Jose |

+--------+----------+

1 row in set (0.00 sec)

Yes there is need of assigning a salesperson in berlin, as there is no salesperson serving now.

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

select s.snum,sname,sum(amt) as totamount,comm from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum group by s.snum;

+------+---------+-----------+------+

| snum | sname | totamount | comm |

+------+---------+-----------+------+

| 1001 | Peel | 15382.07 | 0.12 |

| 1002 | Serres | 6470.40 | 0.13 |

| 1003 | AxelRod | 1788.98 | 0.10 |

| 1004 | Motika | 1900.10 | 0.11 |

| 1007 | Rifkin | 1116.85 | 0.15 |

+------+---------+-----------+------+

5 rows in set (0.00 sec)

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

select sum(amt) as amount from orders where cnum in (select cnum from customer where city in ('Rome','London'));

+----------+

| amount |

+----------+

| 19071.15 |

+----------+

1 row in set (0.00 sec)

select 5\*(sum(comm\*amt)) as commission from salespeople s,customer c,orders o where s.snum in (select snum from salespeople where city in ('London','New York')) and s.snum=c.snum and c.cnum=o.cnum;

+------------+

| commission |

+------------+

| 11168.7870 |

+------------+

1 row in set (0.00 sec)

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

select odate,a.amt,a.onum,m.snum,c.city from orders a,(select max(amt) as maxamt,snum from orders a,customer b where a.cnum=b.cnum group by snum) m,customer c where a.amt =maxamt and a.cnum =c.cnum order by m.snum;

+------------+---------+------+------+----------+

| odate | amt | onum | snum | city |

+------------+---------+------+------+----------+

| 1996-10-06 | 9891.88 | 3011 | 1001 | London |

| 1996-10-03 | 5160.45 | 3005 | 1002 | San Jose |

| 1996-10-04 | 1713.23 | 3009 | 1003 | Rome |

| 1996-10-03 | 1900.10 | 3002 | 1004 | Rome |

| 1996-10-03 | 1098.16 | 3006 | 1007 | San Jose |

+------------+---------+------+------+----------+

5 rows in set (0.00 sec)

124.Which salesperson(s) should be fired?

select a.snum,a.sname,c.cname from salespeople a left join customer c on a.snum=c.snum;

+------+---------+----------+

| snum | sname | cname |

+------+---------+----------+

| 1001 | Peel | Hoffman |

| 1003 | AxelRod | Giovanni |

| 1002 | Serres | liu |

| 1002 | Serres | Grass |

| 1001 | Peel | Clemens |

| 1004 | Motika | Pereira |

| 1007 | Rifkin | Cisneros |

| 1005 | Fran | NULL |

+------+---------+----------+

8 rows in set (0.00 sec)

Fran should be fired.

125.What is the total income for the company?

select sum(amt) from orders;

+----------+

| sum(amt) |

+----------+

| 26658.40 |

+----------+

1 row in set (0.00 sec)

126. What is gross profit of the company?

select (sum(amt)-(sum(comm\*amt))) as Income from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum;

+------------+

| Income |

+------------+

| 23415.9631 |

+------------+

1 row in set (0.11 sec)

127. Find total earnings of each salespeople?

select sname,sum(comm\*amt) as earning from salespeople s,customer c,orders o where s.snum=c.snum and c.cnum=o.cnum group by s.snum;

+---------+-----------+

| sname | earning |

+---------+-----------+

| Peel | 1845.8484 |

| Serres | 841.1520 |

| AxelRod | 178.8980 |

| Motika | 209.0110 |

| Rifkin | 167.5275 |

+---------+-----------+

5 rows in set (0.00 sec)