Note : To solve below queries use “sales” database

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

```
mysql> select  onum, cname FROM orders o
    -> left join customers c ON o.cnum=c.cnum;
+------+----------+
| onum | cname    |
+------+----------+
| 3001 | Cisneros |
| 3003 | Hoffman  |
| 3002 | Pereira  |
| 3005 | Liu      |
| 3006 | Cisneros |
| 3009 | Giovanni |
| 3007 | Grass    |
| 3008 | Clemens  |
| 3010 | Grass    |
| 3011 | Clemens  |
+------+----------+
```

2. Write a query that gives the names of both the salesperson and the customer for each order along with the order number.

```
mysql> SELECT onum, cname, sname FROM orders o
    -> left join customers c ON o.cnum=c.cnum
    -> inner join salespeople s ON o.snum=s.snum;
+------+----------+---------+
| onum | cname    | sname   |
+------+----------+---------+
| 3001 | Cisneros | Rifkin  |
| 3003 | Hoffman  | Peel    |
| 3002 | Pereira  | Motika  |
| 3005 | Liu      | Serres  |
| 3006 | Cisneros | Rifkin  |
| 3009 | Giovanni | Axelrod |
| 3007 | Grass    | Serres  |
| 3008 | Clemens  | Peel    |
| 3010 | Grass    | Serres  |
| 3011 | Clemens  | Peel    |
+------+----------+---------+
```

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

```
mysql> SELECT c.cname, s.sname, s.comm FROM customers c
    -> LEFT join salespeople s ON c.snum=s.snum
    -> WHERE s.comm>0.12;
+----------+--------+------+
| cname    | sname  | comm |
+----------+--------+------+
| Liu      | Serres | 0.13 |
| Grass    | Serres | 0.13 |
| Cisneros | Rifkin | 0.15 |
+----------+--------+------+
```

4. Write a query that calculates the amount of the salesperson’s commission on each order by a customer with a rating above 100.

```
mysql> SELECT s.sname, o.amt, c.rating, (o.amt*s.comm) FROM salespeople s
    -> inner join customers c ON s.snum = c.snum
    -> inner join orders o ON s.snum= o.snum
    -> where c.rating>100;
+---------+---------+--------+----------------+
| sname   | amt     | rating | (o.amt*s.comm) |
+---------+---------+--------+----------------+
| Rifkin  |   18.69 |    300 |         2.8035 |
| Serres  | 5160.45 |    200 |       670.8585 |
| Serres  | 5160.45 |    300 |       670.8585 |
| Rifkin  | 1098.16 |    300 |       164.7240 |
| Axelrod | 1713.23 |    200 |       171.3230 |
| Serres  |   75.75 |    200 |         9.8475 |
| Serres  |   75.75 |    300 |         9.8475 |
| Serres  |  309.95 |    200 |        40.2935 |
| Serres  |  309.95 |    300 |        40.2935 |
+---------+---------+--------+----------------+
```

5. Write a query that produces all pairs of salespeople who are living in the same city.Exclude combinations of salespeople with themselves as well as duplicate rows with the order reversed.

```
mysql> SELECT s.sname,p.sname, p.city FROM salespeople s
    -> inner join salespeople p ON  s.city=p.city and s.sname!=p.sname
    -> AND s.sname<p.sname;
+--------+-------+--------+
| sname  | sname | city   |
+--------+-------+--------+
| Motika | Peel  | London |
+--------+-------+--------+
```

Note : To solve below queries use “spj” database

1. Display the Supplier name and the Quantity sold.

```
mysql> SELECT s.Sname,SUM(q.QTY) from S
    -> inner join SP q ON s.`s#`=q.`s#` GROUP BY S.SNAME;
+-------+------------+
| Sname | SUM(q.QTY) |
+-------+------------+
| Smith |        900 |
| Jones |       3200 |
| Blake |        700 |
| Clark |        600 |
| Adams |       3100 |
+-------+------------+
```

2. Display the Part name and Quantity sold.

```
mysql> SELECT p.Pname,SUM(q.QTY) from P
    -> inner join SP q ON p.`p#`=q.`p#` GROUP BY p.pNAME;
+-------+------------+
| Pname | SUM(q.QTY) |
+-------+------------+
| Nut   |       1000 |
| SCREW |       4800 |
| cam   |       1100 |
| cog   |       1300 |
| bolt  |        300 |
+-------+------------+
```

3. Display the Job name and Quantity sold.

```
mysql>  SELECT j.jname,SUM(q.QTY) from j inner join SP q ON j.`j#`=q.`j#` GROUP BY j.jNAME;
+----------+------------+
| jname    | SUM(q.QTY) |
+----------+------------+
| sorter   |        800 |
| console  |       3300 |
| punch    |       1200 |
| reader   |        500 |
| collator |       1100 |
| terminal |        400 |
| tape     |       1200 |
+----------+------------+
```

4. Display the Supplier name, Part name, Job name and Quantity sold.

```
mysql> SELECT s.sname, p.pname,j.jname, SUM(q.qty) from s
    -> inner join sp AS q ON s.`s#`=q.`s#`
    -> inner join  j ON j.`J#`=q.`j#`
    -> inner join  p ON p.`p#`=q.`p#`GROUP BY j.JNAME,P.PNAME,S.SNAME;
+-------+-------+----------+------------+
| sname | pname | jname    | SUM(q.qty) |
+-------+-------+----------+------------+
| Jones | SCREW | sorter   |        400 |
| Blake | SCREW | sorter   |        200 |
| Smith | Nut   | sorter   |        200 |
| Adams | cog   | punch    |        200 |
| Jones | cam   | punch    |        100 |
| Blake | Screw | punch    |        500 |
| Jones | SCREW | punch    |        200 |
| Adams | bolt  | punch    |        200 |
| Clark | cog   | reader   |        300 |
| Jones | SCREW | reader   |        200 |
| Adams | cog   | console  |        500 |
| Adams | cam   | console  |        400 |
| Adams | Screw | console  |       1000 |
| Jones | SCREW | console  |        500 |
| Adams | bolt  | console  |        100 |
| Smith | Nut   | console  |        700 |
| Adams | Nut   | console  |        100 |
| Adams | cam   | collator |        500 |
| Jones | SCREW | collator |        600 |
| Jones | SCREW | terminal |        400 |
| Clark | cog   | tape     |        300 |
| Adams | cam   | tape     |        100 |
| Jones | SCREW | tape     |        800 |
+-------+-------+----------+------------+
```

5. Display the Supplier name, Supplying Parts to a Job in the same City.

```
mysql> SELECT distinct sp.`S#`,j.city,s.city FROM SP AS sp INNER JOIN J AS j ON sp.`J#`=j.`J#` INNER JOIN S AS s ON s.`S#`=sp.`S#` WHERE j.city=s.city ;
+----+--------+--------+
| S# | city   | city   |
+----+--------+--------+
| S2 | paris  | Paris  |
| S3 | paris  | Paris  |
| S4 | london | London |
| S5 | athens | Athens |
+----+--------+--------+
```

6. Display the Part name that is ‘Red’ is color, and the Quantity sold.

```
mysql> SELECT p.pname,sum(q.qty) FROM p
    -> inner join sp q ON  p.`p#`=q.`p#` WHERE P.COLOR = 'RED' GROUP BY p.pname;
+-------+------------+
| pname | sum(q.qty) |
+-------+------------+
| Nut   |       1000 |
| Screw |       1300 |
| cog   |       1300 |
+-------+------------+
```

7. Display all the Quantity sold by Suppliers with the Status = 20.

```
mysql> SELECT s.status, sum(q.qty) FROM s
    -> inner join sp q ON q.`S#`=s.`S#`
    -> WHERE s.status = 20
    -> GROUP BY s.status;
+--------+------------+
| status | sum(q.qty) |
+--------+------------+
|     20 |       1500 |
+--------+------------+
```

8. Display all the Parts and Quantity with a Weight > 14.

```
Mysql> SELECT p.pname, sum(q.qty) FROM p
    -> inner join sp q ON q.`p#`=p.`p#`
    -> where p.weight>14
    -> GROUP BY p.pname;
+-------+------------+
| pname | sum(q.qty) |
+-------+------------+
| SCREW |       3500 |
| cog   |       1300 |
| bolt  |        300 |
+-------+------------+
```

9. Display all the Job names and City, which has bought more than 500 Parts.

```
mysql> select j.jname, j.city,sum(q.qty) FROM j
    -> inner join sp q ON q.`j#`=j.`j#`
    -> GROUP BY j.jname,j.city
    -> HAVING sum(q.qty)>500
    -> ;
+----------+--------+------------+
| jname    | city   | sum(q.qty) |
+----------+--------+------------+
| sorter   | paris  |        800 |
| console  | athens |       3300 |
| punch    | rome   |       1200 |
| collator | london |       1100 |
| tape     | london |       1200 |
+----------+--------+------------+
```

10. Display all the Part names and Quantity sold that have a Weight less than 15.

```
mysql> SELECT p.pname, sum(q.qty) FROM p
    -> inner join sp q ON q.`p#`=p.`p#`
    -> where p.weight<15
    -> GROUP BY p.pname;
+-------+------------+
| pname | sum(q.qty) |
+-------+------------+
| Nut   |       1000 |
| cam   |       1100 |
| Screw |       1300 |
+-------+------------+
```

11. Display all the Suppliers with the same Status as the supplier, ‘CLARK’.

```
mysql> select sname from s where status = 20;
+-------+
| sname |
+-------+
| Smith |
| Clark |
+-------+
```

12. Display all the Parts which have more Weight than any Red parts.

```
mysql> SELECT p.pname,p.weight,p.color,p1.color from P as p
    -> inner join P as p1
    -> where p1.color='red'
    -> group by 1,2,3,4 having p.weight>min(p1.weight);
+-------+--------+-------+-------+
| pname | weight | color | color |
+-------+--------+-------+-------+
| bolt  |     17 | green | red   |
| SCREW |     17 | blue  | red   |
| Screw |     14 | RED   | red   |
| cog   |     19 | red   | red   |
+-------+--------+-------+-------+
```

13. Display all the Jobs going on in the same city as the job ‘TAPE’.

```
mysql> select distinct j.jname from j
    -> inner join j p ON j.city=p.city where j.city='london';
+----------+
| jname    |
+----------+
| tape     |
| collator |
+----------+
```

14. Display all the Parts with Weight less than any the Green parts.

```
mysql> SELECT p.pname,p.weight,p.color,p1.color from P as p
    -> inner join P as p1
    -> where p1.color='GREEN'
    -> group by 1,2,3,4 having p.weight>min(p1.weight);
+-------+--------+-------+-------+
| pname | weight | color | color |
+-------+--------+-------+-------+
| cog   |     19 | red   | green |
+-------+--------+-------+-------+
```

15. Display the name of the Supplier who has sold the maximum Quantity (in onesale).

```
mysql> select s.sname, q.qty FROM S
    -> inner join sp q ON s.`S#`=q.`S#`
    -> ORDER BY q.qty DESC LIMIT 1;
+-------+------+
| sname | qty  |
+-------+------+
| Jones |  800 |
+-------+------+
```

16. Display the name of the Supplier who has sold the maximum overall Quantity (sumof Sales).

```
mysql> select s.sname, sum(q.qty) FROM S
    -> inner join sp q ON s.`S#`=q.`S#`
    -> group by s.sname
    -> order by sum(q.qty) DESC LIMIT 1;
+-------+------------+
| sname | sum(q.qty) |
+-------+------------+
| Jones |       3200 |
+-------+------------+
```