## **SQL ASSIGNMENT**

## **Table SALESPEOPLE**

```
ysql> use sales;
mysql> use sales;
Database changed
mysql> CREATE TABLE SALESPEOPLE (
-> SNUM INT PRIMARY KEY,
-> SNAME CHAR(50),
-> CITY CHAR(50),
-> COMM FLOAT
-> );
ERROR 1050 (42S01): Table 'salespeople' already exists
mysql> SELECT * FROM SALESPEOPLE;
Empty set (0.241 sec)
                INSERT INTO SALESPEOPLE (SNUM, SNAME, CITY, COMM)
mvsql>
          -> VALUES
-> VALUES
-> (1001, 'Peel', 'London', 0.12),
-> (1002, 'Serres', 'San Jose', 0.13),
-> (1004, 'Motika', 'London', 0.11),
-> (1007, 'Rafin', 'Barcelona', 0.15),
-> (1003, 'Axelrod', 'New York', 0.10);
Query OK, 5 rows affected (0.135 sec)
Records: 5 Duplicates: 0 Warnings: 0
mysql> SELECT * FROM SALESPEOPLE;
                                        I CITY
                                                                     COMM
    SNUM | SNAME
     1001
                                           London
                                                                       0.12
                    Serres
Motika
Rafin
                                                                       0.13
0.11
     1002
1004
                                           San Jose
                                           London
Barcelona
     1007
                                                                       0.15
                     Axelrod
                                           New York
```

## **Table CUST**

```
mysql> CREATE TABLE CUST (
-> CNUM INT PRIMARY KEY,
-> CNAME CHAR(50),
                 CITY CHAR(50),
RATING INT,
                 SNUM INT
-> );
Query OK,
                 0 rows affected (0.487 sec)
mysql> INSERT INTO CUST (CNUM, CNAME, CITY, RATING, SNUM)
-> VALUES
-> VALUES
-> (2001, 'Hoffman', 'London', 100, 1001),
-> (2002, 'Giovanne', 'Rome', 200, 1003),
-> (2003, 'Liu', 'San Jose', 300, 1002),
-> (2004, 'Grass', 'Brelin', 100, 1002),
-> (2006, 'Clemens', 'London', 300, 1007),
-> (2007, 'Pereira', 'Rome', 100, 1004);
Query OK, 6 rows affected (0.092 sec)
Records: 6 Duplicates: 0 Warnings: 0
mysql> SELECT * FROM CUST;
   CNUM |
                CNAME
                                      CITY
                                                           RATING
                                                                            SNUM
    2001
                 Hoffman
                                                                 100
                                                                             1001
                                      London
                                      Rome
                                                                 200
    2002
                 Giovanne
                                                                             1003
                                      San Jose
Brelin
    2003
                 Liu
                                                                 300
                                                                             1002
    2004
                                                                 100
                                                                             1002
                 Grass
    2006
                 Clemens
                                                                             1007
                                      London
                                                                 300
    2007
                 Pereira
                                      Rome
                                                                 100
                                                                             1004
6 rows in set (0.016 sec)
```

## **Table ORDERS**

```
nysql>
                         TABLE ORDERS
               ONUM INT PRIMARY KEY,
AMT DECIMAL(10, 2),
       ->
               ODATE DATE,
CNUM INT,
SNUM INT
       ->
       ->
      _> );
Query OK,
                0 rows affected (0.530 sec)
mysql> INSERT INTO ORDERS (ONUM, AMT, ODATE, CNUM, SNUM)
       -> VALUES
                            18.69, '1994-10-03'
767.19, '1994-10-03'
1900.10, '1994-10-03'
               (3001,
                                            1994-10-03',
                                                                     2008,
                                                                                1007),
                (3003,
                                                                     2001,
                                                                                1001)
                                                                     2007,
                                                                                1004),
                (3002,
                                            1994-10-03
                                                                     2003,
                (3005,
                            5160.45,
                                                                                1002)
                                            1994-10-04
                (3006,
                                                                     2008,
                            1098.16,
-> (3006, 1098.16,'1994-10-04',
-> (3009, 1713.23,'1994-10-04',
-> (3007, 75.75, '1994-10-05',
-> (3008, 4723.00,'1994-10-05',
-> (3010, 1309.95,'1994-10-06',
-> (3011, 9891.88,'1994-10-06',
Query OK, 10 rows affected (0.301 sec)
Records: 10 Duplicates: 0 Warnings:
                                                                                1007)
                                                                                1003),
                                                                     2002,
                                                                     2004,
                                                                                1002),
                                                                     2006,
                                                                                1001),
                                                                                1002),
1001);
                                                                     2004,
                                                                     2006,
```

1. Display snum, sname, city and comm of all salespeople.

```
mysql>
         Select snum,
                                 city,
                        sname,
                                        comm
         from salespeople;
          sname
                      city
                                     comm
  snum
  1001
          Peel
                      London
                                     0.12
                                     0.13
  1002
          Serres
                      San Jose
          Motika
                      London
  1004
                                    0.11
          Rafin
                      Barcelona
New York
                                      . 15
  1007
                                     Θ
                                      Θ.1
          Axelrod
  1003
        in set (0.009 sec)
  rows
```

2. Display all snum without duplicates from all orders.

```
mysql> Select distinct snum from orders;

+----+

| snum |

+----+

| 1007 |

| 1004 |

| 1001 |

| 1002 |

| 1003 |

+----+

5 rows in set (0.296 sec)
```

3. Display names and commissions of all salespeople in london.

4. All customers with rating of 100.

5. Produce orderno, amount and date form all rows in the order table.

```
mysql> SELECT onum, amt, odate from orders;
         amt
                    odate
 onum
 3001
           18.69
                    1994-10-03
 3002
         1900.10
                    1994-10-03
          767.19
 3003
                    1994-10-03
 3005
         5160.45
                   1994-10-03
 3006
         1098.16
                    1994-10-04
           75.75
 3007
                    1994-10-05
 3008
         4723.00
                   1994-10-05
                    1994-10-04
 3009
         1713.23
 3010
         1309.95
                    1994-10-06
 3011
         9891.88
                   1994-10-06
10 rows in set (0.238 sec)
```

6.All customers in San Jose, who have rating more than 200.

7. All customers who were either located in San Jose or had a rating above 200.

8. All orders for more than \$1000.

```
mysql> Select * from orders where amt>1000;
 ONUM | AMT
                   ODATE
                                CNUM |
                                        SNUM
         1900.10
                   1994-10-03
 3002
                                 2007
                                        1004
  3005
         5160.45
                   1994-10-03
                                 2003
                                         1002
 3006
         1098.16
                   1994-10-04
                                 2008
                                        1007
  3008
         4723.00
                   1994-10-05
                                 2006
                                         1001
  3009
         1713.23
                   1994-10-04
                                 2002
                                         1003
  3010
         1309.95
                   1994-10-06
                                 2004
                                        1002
 3011
         9891.88
                   1994-10-06
                                 2006
                                        1001
 rows in set (0.254 sec)
```

9. Names and citires of all salespeople in london with commission above 0.10.

```
mysql> Select sname,city from salespeople where comm>0.10 and city='London';
+-----+
| sname | city |
+-----+
| Peel | London |
| Motika | London |
+-----+----+
2 rows in set (0.242 sec)
```

10. All customers excluding those with rating <= 100 unless they are located in Rome.

11. All salespeople either in Barcelona or in london.

```
mysql> Select sname, city from salespeople where city in ('Barcelona','London');

+-----+
| sname | city |
+-----+
| Peel | London |
| Motika | London |
| Rafin | Barcelona |
+-----+
3 rows in set (0.047 sec)
```

12. All salespeople with commission between 0.10 and 0.12. (Boundary values should be excluded)

13. All customers with NULL values in city column.

```
mysql> Select cname from cust where city is null;
Empty set (0.165 sec)
```

14. All orders taken on Oct 3<sup>Rd</sup> and Oct 4<sup>th</sup> 1994.

```
mysql> Select * from orders where odate in ('03-0CT-84','04-0CT-94');
Empty set, 2 warnings (0.259 sec)
```

15. All customers serviced by peel or Motika.

16. All customers whose names begin with a letter from A to B.

```
mysql> select cname from cust where cname like 'A%' or cname like 'B%'; Empty set (0.011 sec)
```

17. All orders except those with 0 or NULL value in amt field.

```
mysql>
       SELECT onum
       FROM orders
       WHERE amt != 0 AND amt IS NOT NULL;
    ->
  onum
  3001
  3002
 3003
  3005
  3006
  3007
  3008
  3009
  3010
  3011
10 rows in set (0.243 sec)
```

18. Count the number of salespeople currently listing orders in the order table.

19. Largest order taken by each salesperson, datewise.

```
mysql> SELECT odate, snum, MAX(amt) AS max_order
    -> FROM orders
    -> GROUP BY odate,
-> ORDER BY odate,
                           snum
                           snum;
 odate
                 snum | max_order
                            767.19
5160.45
 1994-10-03
                 1001
  1994-10-03
                 1002
  1994-10-03
                 1004
                            1900.10
  1994-10-03
                 1007
                              18.69
  1994-10-04
                            1713.23
1098.16
                 1003
  1994–10–04
                 1007
  1994-10-05
                            4723.00
                 1001
  1994-10-05
                              75.75
                 1002
  1994-10-06
                 1001
                            9891.88
  1994-10-06
                            1309.95
                 1002
10 rows in set (0.148 sec)
```

20. Largest order taken by each salesperson with order value more than \$3000.

```
-> FROM orders
   -> WHERE amt > 3000
-> GROUP BY odate, snum
-> ORDER BY odate, snum;
 odate
               snum
                      max_order
  1994-10-03
               1002
                        5160.45
  1994-10-05
               1001
                        4723.00
  1994-10-06
               1001
                        9891.88
 rows in set (0.017 sec)
```

21. Which day had the hightest total amount ordered.

22. Count all orders for Oct 3<sup>rd</sup>.

```
mysql> SELECT COUNT(*) FROM orders WHERE odate = '1994-10-03';

+-----+

| COUNT(*) |

+-----+

| 4 |

+-----+

1 row in set (0.264 sec)
```

23. Count the number of different non NULL city values in customers table.

24. Select each customer's smallest order.

25. First customer in alphabetical order whose name begins with G.

```
mysql> SELECT MIN(cname) FROM cust WHERE cname LIKE 'G%';
+-----+
| MIN(cname) |
+----+
| Giovanne |
+----+
1 row in set (0.259 sec)
```

26. Get the output like "For dd/mm/yy there are orders.

27. Assume that each salesperson has a 12% commission. Produce order no., salesperson no., and amount of salesperson's commission for that order.

```
mysql> SELECT onum, snum, amt, amt * 0.12 AS commission FROM ord
ers ORDER BY snum;
 onum
        snum
                amt
                           commission
                  767.19
 3003
         1001
                              92.0628
 3008
         1001
                4723.00
                             566.7600
 3011
         1001
                9891.88
                            1187.0256
                5160.45
                             619.2540
 3005
         1002
 3007
         1002
                   75.75
                                9.0900
 3010
         1002
                1309.95
                             157.1940
                             205.5876
                 1713.23
 3009
         1003
  3002
         1004
                 1900.10
                             228.0120
                                2.2428
 3001
         1007
                   18.69
 3006
         1007
                1098.16
                             131.7792
10 rows in set (0.269 sec)
```

28. Find highest rating in each city. Put the output in this form. For the city (city), the highest rating is: (rating).

29. Display the totals of orders for each day and place the results in descending order.

30. All combinations of salespeople and customers who shared a city. (ie same city).

31. Name of all customers matched with the salespeople serving them.

```
mysql> SELECT cname, sname FROM cust, salespeople WHERE cust.snum = salespeople.snum;
 cname
            sname
  Hoffman
             Peel
             Axelrod
 Giovanne
  Liu
             Serres
  Grass
             Serres
             Rafin
 Clemens
  Pereira
             Motika
6 rows in set (0.016 sec)
```

32. List each order number followed by the name of the customer who made the order.

```
mysql> SELECT onum,
                     cname FROM orders, cust WHERE orders.cnum = cust.cnum;
  onum
         cname
  3002
         Pereira
  3003
         Hoffman
  3005
         Liu
  3007
         Grass
  3008
         Clemens
  3009
         Giovanne
  3010
         Grass
  3011
         Clemens
 rows in set (0.017 sec)
```

33. Names of salesperson and customer for each order after the order number.

```
mysql> SELECT onum, sname, cname FROM orders, cust, salespeople WHERE orders.cnum = cust.cnum AND orders.snum = salespeople.snum;

| onum | sname | cname | |
| onum | sname | sname | sname |
| onum | sname | sname |
| onum | sname | sname | sname |
| onum | sname | sname | sname |
| onum | sname | sname | sname |
| onum | sname | sname | sname |
| onum | sname | sname | sname |
| onum | sname | sname | sname |
| onum | sname | sname | sname |
| onum | sname | sname | sname |
| onum | sname | sname | sname |
| onum | sname | sname | sname |
| onum | sname | sname | sname |
| onum | sname | sn
```

34. Produce all customer serviced by salespeople with a commission above 12%.

35. Calculate the amount of the salesperson's commission on each order with a rating above 100.

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

```
mysql> SELECT a.cname, b.cname, a.rating FROM cust a, cust b WHERE a.rating = b.rating AND a.cnum != b.cnum;
           cname
                    | rating
 Pereira
            Hoffman
 Grass
            Hoffman
                         100
 Clemens
           Liu
                         300
 Pereira
            Grass
                         100
 Hoffman
            Grass
                         100
 Liu
            Clemens
                         300
            Pereira
 Grass
                         100
            Pereira
 Hoffman
                         100
      in
          set (0.046 sec)
```

37. Find all pairs of customers having the same rating, each pair coming once only.

```
mysql> SELECT a.cname, b.cname, a.rating FROM cust a, cust b WHERE a.rating = b.rating AND a.cnum < b.cnum;
          cname
                    | rating |
 cname
 Hoffman
                         100
            Grass
                         100
 Hoffman
            Pereira
 Liu
            Clemens
                         300
            Pereira
                         100
 Grass
 rows in set (0.306 sec)
```

38. Policy is to assign three salesperson to each customers. Display all such combination.

```
mysql> SELECT c.cname, s.sname FROM cust c JOIN (SELECT * FROM salespeople LIMIT 3) s;
 cname
            sname
 Hoffman
              Motika
              Serres
Peel
 Hoffman
 Hoffman
 Giovanne
              Motika
              Serres
Peel
 Giovanne
 Giovanne
              Motika
              Serres
Peel
 Liu
 Liu
              Motika
 Grass
              Serres
Peel
 Grass
  Grass
  Clemens
              Motika
              Serres
Peel
 Clemens
 Clemens
  Pereira
              Motika
  Pereira
              Serres
 Pereira
              Peel
18 rows in set (0.292 sec)
```

39. Display all customers located in cities where salesman serres has customer.

```
mysql> SELECT cname
    -> FROM cust
    -> WHERE city IN (
    -> SELECT c.city
    -> FROM cust c
    -> JOIN salespeople s ON c.snum = s.snum
    -> WHERE s.sname = 'Serres'
    -> );
+-----+
| cname |
+-----+
| Liu |
| Grass |
+-----+
2 rows in set (0.025 sec)
```

40. Find all pairs of customers served by single salesperson.

```
mysql> SELECT DISTINCT a.cname FROM cust a, cust b WHERE a.snum = b.snum AND a.cnum != b.cnum;
+-----+
| cname |
+-----+
| Grass |
| Liu |
+-----+
2 rows in set (0.018 sec)
```

41. Produce all pairs of salespeople which are living in the same city. Exclude combinations of salespeople with themselves as well as duplicates with the order reversed.

```
mysql> SELECT a.sname, b.sname FROM salespeople a, salespeople b WHERE a.snum > b.snum AND a.city = b.city;
+------+
| sname | sname |
+------+
| Motika | Peel |
+-----+
1 row in set (0.268 sec)
```

42. Produce all pairs of orders by given customer, names that customers and eliminates duplicates.

43. Produce names and cities of all customers with the same rating as Hoffman.

```
mysql> SELECT cname, city FROM cust WHERE rating = (SELECT rating FROM cust WHERE cname = 'Hoffman') AND cname != 'Hoffman';

| cname | city |

| cname | coal |

| cname | co
```

44. Extract all the orders of Motika

```
mysql> SELECT onum FROM orders WHERE snum = (SELECT snum FROM salespeople WHERE sname = 'Motika');
+-----+
| onum |
+-----+
| 3002 |
+-----+
1 row in set (0.016 sec)
```

45. All orders credited to the same salesperson who services Hoffman.

46. All orders that are greater than the average for Oct 4.

```
mysql> SELECT * FROM orders WHERE amt > (SELECT AVG(amt) FROM orders WHERE odate = '1994-10-04');
 ONUM
        AMT
                   ODATE
                                CNUM
                                        SNUM |
 3002
         1900.10
                   1994-10-03
                                 2007
                                        1004
 3005
         5160.45
                   1994-10-03
                                        1002
                                 2003
                   1994-10-05
        4723.00
 3008
                                 2006
                                        1001
                   1994-10-04
 3009
        1713.23
                                        1003
                                 2002
                   1994-10-06
                                 2006
                                        1001
 3011
         9891.88
 rows in set (0.050 sec)
```

47. Find average commission of salespeople in london.

48. Find all orders attributed to salespeople servicing customers in london.

```
mysql> SELECT snum, cnum FROM orders WHERE cnum IN (SELECT cnum FROM cust WHERE city = 'London');
+----+
| snum | cnum |
+----+
| 1001 | 2001 |
| 1001 | 2006 |
| 1001 | 2006 |
+----+
3 rows in set (0.019 sec)
```

49. Extract commissions of all salespeople servicing customers in London.

```
mysql> SELECT comm FROM salespeople WHERE snum IN (SELECT snum FROM cust WHERE city = 'London');
+-----+
| comm |
+-----+
| 0.12 |
| 0.15 |
+-----+
2 rows in set (0.015 sec)
```

50. Find all customers whose cnum is 1000 above the snum of serres.

51. Count the customers with rating above San Jose's average.

```
mysql> SELECT cnum, rating FROM cust WHERE rating > (SELECT AVG(rating) FROM cust WHERE city = 'San Jose');
Empty set (0.017 sec)
```