ADBMS Practical 1

Salesman

```
mysql> create table salesman(
    -> salesman_id int(5) primary key,
    -> name varchar(20),
    -> city varchar(20),
    -> commission float(4)
    -> );
```

```
mysql> desc salesman;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| salesman_id | int         | NO   | PRI | NULL    |       |
| name        | varchar(20) | YES  |     | NULL    |       |
| city        | varchar(20) | YES  |     | NULL    |       |
| commission  | float       | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
4 rows in set (0.01 sec)
```

```
mysql> insert into salesman values(5001, 'James Hoog', 'New York',  0.15);
Query OK, 1 row affected (0.06 sec)
mysql> insert into salesman values(5002, 'Nail Knite', 'Paris',  0.13);
Query OK, 1 row affected (0.05 sec)
mysql> insert into salesman values(5003, 'Lauson Hen', '',  0.12);
Query OK, 1 row affected (0.02 sec)
mysql> insert into salesman values(5005, ' Pit Alex', 'London',  0.11);
Query OK, 1 row affected (0.03 sec)
mysql> insert into salesman values(5006, 'Mc Lyon', 'Paris',  0.14);
Query OK, 1 row affected (0.03 sec)
mysql> insert into salesman values(5007, 'Paul Adam', 'Rome',  0.13);
Query OK, 1 row affected (0.03 sec)
```

```
mysql> select *from salesman;
+-------------+------------+----------+------------+
| salesman_id | name       | city     | commission |
+-------------+------------+----------+------------+
|        5001 | James Hoog | New York |       0.15 |
|        5002 | Nail Knite | Paris    |       0.13 |
|        5003 | Lauson Hen |          |       0.12 |
|        5005 | Pit Alex   | London   |       0.11 |
|        5006 | Mc Lyon    | Paris    |       0.14 |
|        5007 | Paul Adam  | Rome     |       0.13 |
+-------------+------------+----------+------------+
6 rows in set (0.00 sec)
```

Customer

```
mysql> create table customer(
    -> customer_id int(5) primary key,
    -> customer_name varchar(30),
    -> city varchar(20),
    -> grade int(4),
    -> salesman_id int,
    -> foreign key(salesman_id) references salesman(salesman_id)
    -> );
```

```
mysql> desc customer;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| customer_id   | int         | NO   | PRI | NULL    |       |
| customer_name | varchar(30) | YES  |     | NULL    |       |
| city          | varchar(20) | YES  |     | NULL    |       |
| grade         | int         | YES  |     | NULL    |       |
| salesman_id   | int         | YES  | MUL | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

```
mysql> insert into customer values(3002, 'Nick Rimando', 'New York', 100, 5001);
Query OK, 1 row affected (0.01 sec)
mysql> insert into customer values(3005, 'Graham Zusi', 'California', 200, 5002);
Query OK, 1 row affected (0.03 sec)
mysql> insert into customer values(3001, 'Brad Guzan', 'London', null, null);
Query OK, 1 row affected (0.03 sec)
mysql> insert into customer values(3004, 'Fabian Johns', 'Paris', 300, 5006);
Query OK, 1 row affected (0.05 sec)
mysql> insert into customer values(3007, 'Brad Davis', 'New York', 200, 5001);
```

Query OK, 1 row affected (0.02 sec)

mysql> insert into customer values(3009, 'Geoff Camero', 'Berlin', 100, null);

Query OK, 1 row affected (0.03 sec)

mysql> insert into customer values(3008, 'Julian Green', 'London', 300, 5002);

Query OK, 1 row affected (0.05 sec)

mysql> insert into customer values(3003, 'Jozy Altidor', 'Moncow', 200, 5007);

Query OK, 1 row affected (0.03 sec)

```
mysql> select*from customer;
+-------------+---------------+------------+-------+-------------+
| customer_id | customer_name | city       | grade | salesman_id |
+-------------+---------------+------------+-------+-------------+
|        3001 | Brad Guzan    | London     |  NULL |        NULL |
|        3002 | Nick Rimando  | New York   |   100 |        5001 |
|        3003 | Jozy Altidor  | Moncow     |   200 |        5007 |
|        3004 | Fabian Johns  | Paris      |   300 |        5006 |
|        3005 | Graham Zusi   | California |   200 |        5002 |
|        3007 | Brad Davis    | New York   |   200 |        5001 |
|        3008 | Julian Green  | London     |   300 |        5002 |
|        3009 | Geoff Camero  | Berlin     |   100 |        NULL |
+-------------+---------------+------------+-------+-------------+
8 rows in set (0.00 sec)
```

Orders

mysql> create table orders(

-> order_no int(6) primary key,

-> purch_amt float(7),

-> order_date date,

-> customer_id int,

-> foreign key(customer_id) references customer(customer_id),

-> salesman_id int,

-> foreign key(salesman_id) references salesman(salesman_id)

->);

```
mysql> desc orders;
+-------------+-------+------+-----+---------+-------+
| Field       | Type  | Null | Key | Default | Extra |
+-------------+-------+------+-----+---------+-------+
| order_no    | int   | NO   | PRI | NULL    |       |
| purch_amt   | float | YES  |     | NULL    |       |
| order_date  | date  | YES  |     | NULL    |       |
| customer_id | int   | YES  | MUL | NULL    |       |
| salesman_id | int   | YES  | MUL | NULL    |       |
+-------------+-------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

```
mysql> insert into orders values(70001, 150.5, '2016-10-05', 3005, 5002);
Query OK, 1 row affected (0.03 sec)
mysql> insert into orders values(70009, 270.65, '2016-09-10', 3001, null);
Query OK, 1 row affected (0.02 sec)
mysql> insert into orders values(70002, 65.26, '2016-10-05', 3002, 5001);
Query OK, 1 row affected (0.02 sec)
mysql> insert into orders values(70004, 110.5, '2016-08-17', 3009, null);
Query OK, 1 row affected (0.01 sec)
mysql> insert into orders values(70007, 948.5, '2016-09-10', 3005, 5002);
Query OK, 1 row affected (0.02 sec)
mysql> insert into orders values(70005, 2400.6, '2016-07-27', 3007, 5001);
Query OK, 1 row affected (0.01 sec)
mysql> insert into orders values(70008, 5760, '2016-09-10', 3002, 5001);
Query OK, 1 row affected (0.03 sec)
mysql> insert into orders values(70010, 1983.43, '2016-10-10', 3004, 5006);
Query OK, 1 row affected (0.01 sec)
mysql> insert into orders values(70003, 2480.4, '2016-10-10', 3009, null);
Query OK, 1 row affected (0.02 sec)
mysql> insert into orders values(70012, 250.45, '2016-06-27', 3008, 5002);
Query OK, 1 row affected (0.02 sec)
mysql> insert into orders values(70011, 75.29, '2016-08-17', 3003, 5007);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select*from orders;
+----------+-----------+------------+-------------+-------------+
| order_no | purch_amt | order_date | customer_id | salesman_id |
+----------+-----------+------------+-------------+-------------+
|    70001 |     150.5 | 2016-10-05 |        3005 |        5002 |
|    70002 |     65.26 | 2016-10-05 |        3002 |        5001 |
|    70003 |    2480.4 | 2016-10-10 |        3009 |        NULL |
|    70004 |     110.5 | 2016-08-17 |        3009 |        NULL |
|    70005 |    2400.6 | 2016-07-27 |        3007 |        5001 |
|    70007 |     948.5 | 2016-09-10 |        3005 |        5002 |
|    70008 |      5760 | 2016-09-10 |        3002 |        5001 |
|    70009 |    270.65 | 2016-09-10 |        3001 |        NULL |
|    70010 |   1983.43 | 2016-10-10 |        3004 |        5006 |
|    70011 |     75.29 | 2016-08-17 |        3003 |        5007 |
|    70012 |    250.45 | 2016-06-27 |        3008 |        5002 |
+----------+-----------+------------+-------------+-------------+
11 rows in set (0.00 sec)
```

1. Display name and commission for all the salesmen.

```
mysql> select name, commission from salesman;
+-------------+------------+
| name        | commission |
+-------------+------------+
| James Hoog  |       0.15 |
| Nail Knite  |       0.13 |
| Lauson Hen  |       0.12 |
| Pit Alex    |       0.11 |
| Mc Lyon     |       0.14 |
| Paul Adam   |       0.13 |
+-------------+------------+
6 rows in set (0.00 sec)
```

2. Retrieve salesman id of all salesmen from orders table without any repeats.

```
mysql> select salesman_id from orders group by salesman_id;
+-------------+
| salesman_id |
+-------------+
|        NULL |
|        5001 |
|        5002 |
|        5006 |
|        5007 |
+-------------+
5 rows in set (0.00 sec)
```

3. Display names and city of salesman, who belongs to the city of Paris.

```
mysql> select name, city from salesman where city='paris';
+-------------+--------+
| name        | city   |
+-------------+--------+
| Nail Knite  | Paris  |
| Mc Lyon     | Paris  |
+-------------+--------+
2 rows in set (0.00 sec)
```

4. Display all the information for those customers with a grade of 200.

```
mysql> select * from customer where grade=200;
+-------------+---------------+------------+-------+-------------+
| customer_id | customer_name | city       | grade | salesman_id |
+-------------+---------------+------------+-------+-------------+
|        3003 | Jozy Altidor  | Moncow     |   200 |        5007 |
|        3005 | Graham Zusi   | California |   200 |        5002 |
|        3007 | Brad Davis    | New York   |   200 |        5001 |
+-------------+---------------+------------+-------+-------------+
3 rows in set (0.00 sec)
```

5. Display the order number, order date and the purchase amount for order(s) which will be delivered by the salesman with ID 5001

```
mysql> select order_no, order_date, purch_amt from orders where salesman_id=5001;
+----------+------------+-----------+
| order_no | order_date | purch_amt |
+----------+------------+-----------+
|    70002 | 2016-10-05 |     65.26 |
|    70005 | 2016-07-27 |    2400.6 |
|    70008 | 2016-09-10 |      5760 |
+----------+------------+-----------+
3 rows in set (0.00 sec)
```

6. Display all the customers, who are either belongs to the city New York or not had a grade above 100.

```
mysql> select * from customer where city='new york' or grade<=100;
+-------------+---------------+----------+-------+-------------+
| customer_id | customer_name | city     | grade | salesman_id |
+-------------+---------------+----------+-------+-------------+
|        3002 | Nick Rimando  | New York |   100 |        5001 |
|        3007 | Brad Davis    | New York |   200 |        5001 |
|        3009 | Geoff Camero  | Berlin   |   100 |        NULL |
+-------------+---------------+----------+-------+-------------+
3 rows in set (0.00 sec)
```

7. Find those salesmen with all information who gets the commission within a range of 0.12 and 0.14.

```
mysql> select * from salesman where commission between 0.12 and 0.14;
+-------------+------------+-------+------------+
| salesman_id | name       | city  | commission |
+-------------+------------+-------+------------+
|        5002 | Nail Knite | Paris |       0.13 |
|        5007 | Paul Adam  | Rome  |       0.13 |
+-------------+------------+-------+------------+
2 rows in set (0.00 sec)
```

8. Find all those customers with all information whose names are ending with the letter 'n'.

```
mysql> select * from customer where customer_name like '%_n';
+-------------+---------------+--------+-------+-------------+
| customer_id | customer_name | city   | grade | salesman_id |
+-------------+---------------+--------+-------+-------------+
|        3001 | Brad Guzan    | London |  NULL |        NULL |
|        3008 | Julian Green  | London |   300 |        5002 |
+-------------+---------------+--------+-------+-------------+
2 rows in set (0.00 sec)
```

9. Find those salesmen with all information whose name containing the 1st character is 'N' and the 4th character is 'l' and rests may be any character.

```
mysql> select*from salesman where name like 'n__l_%';
+-------------+------------+-------+------------+
| salesman_id | name       | city  | commission |
+-------------+------------+-------+------------+
|        5002 | Nail Knite | Paris |       0.13 |
+-------------+------------+-------+------------+
1 row in set (0.00 sec)
```

10. Find that customer with all information who does not get any grade except NULL.

```
mysql> select*from customer where grade is null;
+-------------+---------------+--------+-------+-------------+
| customer_id | customer_name | city   | grade | salesman_id |
+-------------+---------------+--------+-------+-------------+
|        3001 | Brad Guzan    | London |  NULL |        NULL |
+-------------+---------------+--------+-------+-------------+
1 row in set (0.00 sec)
```

11. Find the total purchase amount of all orders.

```
mysql> select sum(purch_amt) total_amt from orders;
+--------------------+
| total_amt          |
+--------------------+
| 14495.580047607422 |
+--------------------+
1 row in set (0.00 sec)
```

12. Find the number of salesman currently listing for all of their customers.

```
mysql> select count(salesman_id) from customer where salesman_id is not null;
+--------------------+
| count(salesman_id) |
+--------------------+
|                  6 |
+--------------------+
1 row in set (0.00 sec)
```

13. Find the highest grade for each of the cities of the customers.

```
mysql> select city,max(grade) from customer group by city;
+------------+------------+
| city       | max(grade) |
+------------+------------+
| London     |        300 |
| New York   |        200 |
| Moncow     |        200 |
| Paris      |        300 |
| California |        200 |
| Berlin     |        100 |
+------------+------------+
6 rows in set (0.01 sec)
```

14. Find the highest purchase amount ordered by each customer with their ID and highest purchase amount.

```
mysql> select customer_id,max(purch_amt) from orders group by customer_id;
+-------------+----------------+
| customer_id | max(purch_amt) |
+-------------+----------------+
|        3001 |         270.65 |
|        3002 |           5760 |
|        3003 |          75.29 |
|        3004 |        1983.43 |
|        3005 |          948.5 |
|        3007 |         2400.6 |
|        3008 |         250.45 |
|        3009 |         2480.4 |
+-------------+----------------+
8 rows in set (0.00 sec)
```

15. Find the highest purchase amount ordered by each customer on a particular date with their ID, order date and highest purchase amount.

```
mysql> select customer_id, order_date, max(purch_amt) from orders group by customer_id,order_date;
+-------------+------------+----------------+
| customer_id | order_date | max(purch_amt) |
+-------------+------------+----------------+
|        3005 | 2016-10-05 |          150.5 |
|        3002 | 2016-10-05 |          65.26 |
|        3009 | 2016-10-10 |         2480.4 |
|        3009 | 2016-08-17 |          110.5 |
|        3007 | 2016-07-27 |         2400.6 |
|        3005 | 2016-09-10 |          948.5 |
|        3002 | 2016-09-10 |           5760 |
|        3001 | 2016-09-10 |         270.65 |
|        3004 | 2016-10-10 |        1983.43 |
|        3003 | 2016-08-17 |          75.29 |
|        3008 | 2016-06-27 |         250.45 |
+-------------+------------+----------------+
11 rows in set (0.00 sec)
```

16. Find the highest purchase amount on a date '2012-08-17' for each salesman with their ID.

```
mysql> select salesman_id,order_date,max(purch_amt)from orders where order_date='2016-08-17' group by salesman_id,order_
date;
+-------------+------------+----------------+
| salesman_id | order_date | max(purch_amt) |
+-------------+------------+----------------+
|        NULL | 2016-08-17 |          110.5 |
|        5007 | 2016-08-17 |          75.29 |
+-------------+------------+----------------+
2 rows in set (0.00 sec)
```

17. Find the highest purchase amount with their customer ID and order date, for only those customers who have the highest purchase amount in a day is more than 2000.

```
mysql> select customer_id, order_date, max(purch_amt) from orders where purch_amt>2000 group by customer_id,order_date;
+-------------+------------+----------------+
| customer_id | order_date | max(purch_amt) |
+-------------+------------+----------------+
|        3009 | 2016-10-10 |         2480.4 |
|        3007 | 2016-07-27 |         2400.6 |
|        3002 | 2016-09-10 |           5760 |
+-------------+------------+----------------+
3 rows in set (0.00 sec)
```

18. Write a SQL statement that counts all orders for a date August 17th, 2012.

```
mysql> select count(order_date) from orders where order_date='2016-08-17';
+--------------------+
| count(order_date) |
+--------------------+
|                  2 |
+--------------------+
1 row in set (0.00 sec)
```

19. Find the name and price of the cheapest item(s).

```
mysql> select order_no,purch_amt from orders where purch_amt = (select min(purch_amt) from orders);
+----------+-----------+
| order_no | purch_amt |
+----------+-----------+
|    70002 |     65.26 |
+----------+-----------+
1 row in set (0.00 sec)
```

20. Find the highest purchase amount made on each date by the customers.

```
mysql> select order_date,max(purch_amt) from orders group by order_date;
+------------+----------------+
| order_date | max(purch_amt) |
+------------+----------------+
| 2016-10-05 |          150.5 |
| 2016-10-10 |         2480.4 |
| 2016-08-17 |          110.5 |
| 2016-07-27 |         2400.6 |
| 2016-09-10 |           5760 |
| 2016-06-27 |         250.45 |
+------------+----------------+
6 rows in set (0.00 sec)
```

21. Find the id and name of the salesman who has commission higher than 0.13.

```
mysql> select salesman_id,name,commission from salesman where commission>0.13;
+-------------+------------+------------+
| salesman_id | name       | commission |
+-------------+------------+------------+
|        5001 | James Hoog |       0.15 |
|        5006 | Mc Lyon    |       0.14 |
+-------------+------------+------------+
2 rows in set (0.00 sec)
```

22. Display the id, name and the commission of the salesman having highest commission.

```
mysql> select salesman_id,name,commission from salesman where commission = (select max(commission) from salesman);
+-------------+------------+------------+
| salesman_id | name       | commission |
+-------------+------------+------------+
|        5001 | James Hoog |       0.15 |
+-------------+------------+------------+
1 row in set (0.00 sec)
```