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Practical No: DDL operations on Relational Schema

```
mysql> create database DBMS;
mysql> use DBMS;
mysql> create table salesman(salesman_id int primary key NOT NULL, name varchar(20),city varchar(20),commission
mysql> desc salesman;
```

Field	Type	Null	Key	Default	Extra
salesman_id	int(11)	NO	PRI	NULL	
name	varchar(20)	YES		NULL	
city	varchar(20)	YES		NULL	
commission	float	YES		NULL	

4 rows in set (0.06 sec)

```
mysql> insert into salesman values(5001,"James Hooq","New York",0.15);
mysql> insert into salesman values(5002,"Nail Knite","Paris",0.13);
mysql> insert into salesman values(5003,"Pit Alex","London",0.11);
mysql> insert into salesman values(5006,"Mc Lyon","Paris",0.14);
mysql> update salesman set salesman_id=5005 where city="London";
mysql> insert into salesman values(5003,"Lauson Hen","",0.12);
mysql> insert into salesman values(5007,"Paul Adam","Rome",0.13);
```

```
mysql> select * from salesman;
```

salesman_id	name	city	commission
5001	James Hooq	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)

```
mysql> create table customer(customer_id int primary key NOT NULL, customer_name varchar(20), city varchar(20),grade
an(salesman_id));
Query OK, 0 rows affected (0.05 sec)
```

```
mysql> desc customer;
```

Field	Type	Null	Key	Default	Extra
customer_id	int(11)	NO	PRI	NULL	
customer_name	varchar(20)	YES		NULL	
city	varchar(20)	YES		NULL	
grade	int(11)	YES		NULL	
salesman_id	int(11)	YES	MUL	NULL	

5 rows in set (0.00 sec)

```
mysql> insert into customer values(3002,"Nick Rimando","New York",100,5001);
```

```
mysql> insert into customer values(3005,"Graham Zusi","California",200,5002);
mysql> insert into customer values(3001,"Brad Guzan","London",Null,Null);
mysql> insert into customer values(3004,"Fabian Johns","Paris",300,5006);
mysql> insert into customer values(3007,"Brad Davis","New York",200,5001);
mysql> insert into customer values(3009,"Geoff Camero","Berlin",100,Null);
mysql> insert into customer values(3008,"Julian Green","London",300,5002);
mysql> insert into customer values(3003,"Jory Altidor","Moncow",200,5007);
```

```
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	Jory 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)

```
mysql> create table orders(order_no int,purch_amt float,order_date DATE, customer_id int, foreign key(customer_id)
man_id) references salesman(salesman_id));
Query OK, 0 rows affected (0.06 sec)
```

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

```
mysql> select * from orders;
```

order_no	purch_amt	order_date	customer_id	salesman_id
70001	150.5	2016-10-05	3005	5002
70009	270.65	2016-09-10	3001	NULL
70002	65.26	2016-10-05	3002	5001
70004	110.5	2016-08-17	3009	NULL
70007	948.5	2016-09-10	3005	5002
70005	2400.6	2016-07-27	3007	5001
70008	5760	2016-09-10	3002	5001
70010	1983.43	2016-10-10	3004	5006
70003	2480.4	2016-10-10	3009	NULL
70012	250.45	2016-06-27	3008	5002
70011	75.29	2016-08-17	3003	5007

11 rows in set (0.00 sec)

Queries:-

1) Display name and commission for all the salesmen

```
mysql> select name,comission from salesman;
```

```
+-----+-----+
| name | comission |
+-----+-----+
| 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 distinct salesman_id from salesman;
```

```
+-----+
| salesman_id |
+-----+
| 5001 |
| 5002 |
| 5003 |
| 5005 |
| 5006 |
| 5007 |
+-----+
6 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 | Moscow | 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 ord_no,ord_date,purch_amt from orders where salesman_id=5001;
```

```
+-----+-----+-----+
| ord_no | ord_date | purch_amt |
+-----+-----+-----+
| 70002 | 2012-10-05 | 65.26 |
| 70005 | 2012-07-27 | 2400.6 |
| 70008 | 2012-09-10 | 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 not 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 Cameron	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 salesman_id, name, city, comission from salesman where comission between 0.12 AND 0.14;

salesman_id	name	city	comission
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
3004	Fabian Johnson	Paris	300	5006
3008	Julian Green	London	300	5002
3009	Geoff Cameron	Berlin	100	NULL

4 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	comission
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) from orders;

sum(purch_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 orders;
```

```
+-----+
| count(salesman_id) |
+-----+
| 8 |
+-----+
```

1 row in set (0.00 sec)

```
mysql> select count(Distinct salesman_id) from orders;
```

```
+-----+
| count(Distinct salesman_id) |
+-----+
| 4 |
+-----+
```

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 |
| Moscow | 200 |
| Paris | 300 |
| California | 200 |
| Berlin | 100 |
+-----+-----+
```

6 rows in set (0.00 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,ord_date,max(purch_amt) from orders group by customer_id,ord_date;
```

```
+-----+-----+-----+
| customer_id | ord_date | max(purch_amt) |
+-----+-----+-----+
| 3005 | 2012-10-05 | 150.5 |
| 3002 | 2012-10-05 | 65.26 |
| 3009 | 2012-10-10 | 2480.4 |
| 3009 | 2012-08-17 | 110.5 |
+-----+-----+-----+
```

3007	2012-07-27	2400.6
3005	2012-09-10	948.5
3002	2012-09-10	5760
3001	2012-09-10	270.65
3004	2012-10-10	1983.43
3003	2012-08-17	75.29
3008	2012-06-27	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, max(purch_amt) from orders where ord_date='2012-08-17' group by salesman_id;

salesman_id	max(purch_amt)
NULL	110.5
5007	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, ord_date, max(purch_amt) from orders group by customer_id, ord_date having max(purch_amt)>2000;

customer_id	ord_date	max(purch_amt)
3009	2012-10-10	2480.4
3007	2012-07-27	2400.6
3002	2012-09-10	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(*) from orders where ord_date='2012-08-17';

count(*)
2

1 row in set (0.00 sec)