

Practical 1 Basic DDL Operations

Class: MSc. DSAI

Roll No.:L005

Creating Tables

```
mysql> create database msds;
```

```
mysql> use msds;
```

Database changed

```
mysql> CREATE TABLE salesman (  
    -> salesman_id INT PRIMARY KEY,  
    -> name varchar(50),  
    -> city VARCHAR(50),  
    -> commission DECIMAL(4, 2));
```

```
mysql> CREATE TABLE customer (  
    -> customer_id INT PRIMARY KEY,  
    -> customer_name VARCHAR(50),  
    -> city VARCHAR(50),  
    -> grade INT,  
    -> salesman_id INT,  
    -> FOREIGN KEY (salesman_id) REFERENCES  
salesman(salesman_id));
```

```
mysql> CREATE TABLE orders (  

```

```

-> order_no INT PRIMARY KEY,
-> purch_amt DECIMAL(10, 2),
-> order_date DATE,
-> customer_id INT,
-> salesman_id INT,
-> FOREIGN KEY (customer_id) REFERENCES
customer(customer_id));

```

```
mysql> desc salesman;
```

```
mysql> desc salesman;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| salesman_id | int           | NO   | PRI | NULL    |       |
| name        | varchar(50)   | YES  |     | NULL    |       |
| city        | varchar(50)   | YES  |     | NULL    |       |
| commission  | decimal(4,2)  | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)
```

```
mysql> desc customer;
```

```
mysql> desc customer;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| customer_id    | int           | NO   | PRI | NULL    |       |
| customer_name  | varchar(50)   | YES  |     | NULL    |       |
| city           | varchar(50)   | YES  |     | NULL    |       |
| grade          | int           | YES  |     | NULL    |       |
| salesman_id    | int           | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> desc orders;
```

```
mysql> desc orders;
```

Field	Type	Null	Key	Default	Extra
order_no	int	NO	PRI	NULL	
purch_amt	decimal(10,2)	YES		NULL	
order_date	date	YES		NULL	
customer_id	int	YES	MUL	NULL	
salesman_id	int	YES		NULL	

```
5 rows in set (0.00 sec)
```

Inserting data values

```
INSERT INTO salesman (salesman_id, name, city,
commission) VALUES
```

```
-> (5001, 'James Hoog', 'New York', 0.15),
-> (5002, 'Nail Knite', 'Paris', 0.13),
-> (5005, 'Pit Alex', 'London', 0.11),
-> (5006, 'Mc Lyon', 'Paris', 0.14),
-> (5003, 'Lawson Hen', ' ', 0.12),
-> (5007, 'Paul Adam', 'Rome', 0.13);
```

```
mysql> INSERT INTO customer (customer_id,
customer_name, city, grade, salesman_id) VALUES
```

```
-> (3002, 'Nick Rimando', 'New York', 100,
5001),
-> (3005, 'Graham Rush', 'California', 200,
5002),
-> (3001, 'Brad Guzan', 'London',
NULL, NULL),
```

```
    -> (3004, 'Fabian John', 'Paris', 300,
5006),
    -> (3007, 'Brad Davis', 'New York', 200,
5001),
    -> (3009, 'Geoff Camero', 'Berlin', 100,
NULL),
    -> (3003, 'Julian Green', 'London', 300,
5002),
    -> (3008, 'Joey Altidore', 'Moscow', 200,
5007);
```

```
mysql> INSERT INTO orders (order_no, purch_amt,
order_date, customer_id, salesman_id) VALUES
```

```
    -> (70001, 150.50, '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);
```

```
select * from salesman;
```

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

salesman_id	name	city	commission
5001	James Hoog	New York	0.15
5002	Nail Knite	Paris	0.13
5003	Lawson 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 (0.01 sec)
```

```
select * from customer;
```

```
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	Julian Green	London	300	5002
3004	Fabian John	Paris	300	5006
3005	Graham Rush	California	200	5002
3007	Brad Davis	New York	200	5001
3008	Joey Altidore	Moscow	200	5007
3009	Geoff Camero	Berlin	100	NULL

```
8 rows in set (0.00 sec)
```

```
select * from orders;
```

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

order_no	purch_amt	order_date	customer_id	salesman_id
70001	150.50	2016-10-05	3005	5002
70002	65.26	2016-10-05	3002	5001
70003	2480.40	2016-10-10	3009	NULL
70004	110.50	2016-08-17	3009	NULL
70005	2400.60	2016-07-27	3007	5001
70007	948.50	2016-09-10	3005	5002
70008	5760.00	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.

```
SELECT name, commission FROM salesman;
```

```
mysql> SELECT name, commission FROM salesman;
```

name	commission
James Hoog	0.15
Nail Knite	0.13
Lawson 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.

```
SELECT DISTINCT salesman_id FROM orders;
```

```
mysql> SELECT DISTINCT salesman_id FROM orders;
```

salesman_id
5002
5001
NULL
5006
5007

```
5 rows in set (0.00 sec)
```

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

```
SELECT name, city FROM salesman WHERE city = '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.

```
SELECT * FROM customer WHERE grade = 200;
```

```
mysql> SELECT * FROM customer WHERE grade = 200;
```

customer_id	customer_name	city	grade	salesman_id
3005	Graham Rush	California	200	5002
3007	Brad Davis	New York	200	5001
3008	Joey Altidore	Moscow	200	5007

```
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

```
SELECT order_no, order_date, purch_amt FROM
orders WHERE salesman_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	2400.60
70008	2016-09-10	5760.00

```
3 rows in set (0.00 sec)
```

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

```
SELECT * FROM customer WHERE city = 'New York'
OR grade <= 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)
```


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

```
SELECT * FROM salesman WHERE commission BETWEEN 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       |
| 5003        | Lawson Hen |      | 0.12       |
| 5006        | Mc Lyon   | Paris | 0.14       |
| 5007        | Paul Adam  | Rome  | 0.13       |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

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

```
SELECT * FROM customer WHERE customer_name LIKE '%n';
```

```
mysql> SELECT * FROM customer WHERE customer_name LIKE '%n';
+-----+-----+-----+-----+-----+
| customer_id | customer_name | city   | grade | salesman_id |
+-----+-----+-----+-----+-----+
| 3001        | Brad Guzan    | London | NULL   | NULL        |
| 3003        | Julian Green  | London | 300    | 5002        |
| 3004        | Fabian John   | Paris  | 300    | 5006        |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

15. 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.

```
SELECT * FROM salesman WHERE name LIKE 'N__l%';
```

```
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)
```

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

```
SELECT * FROM customer WHERE grade IS 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)
```

17. Find the total purchase amount of all orders.

```
select sum(purch_amt) from orders;
```

```
mysql> select sum(purch_amt) from orders;
```

sum(purch_amt)
14495.58

```
1 row in set (0.00 sec)
```

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

```
select count(distinct salesman_id) from
salesman;
```

```
mysql> select count(distinct salesman_id) from salesman;
+-----+
| count(distinct salesman_id) |
+-----+
| 6 |
+-----+
1 row in set (0.00 sec)
```

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

```
select city,max(grade) from customer group by city;
```

```
mysql> select city,max(grade) from customer group by city;
+-----+-----+
| city | max(grade) |
+-----+-----+
| London | 300 |
| New York | 200 |
| Paris | 300 |
| California | 200 |
| Moscow | 200 |
| Berlin | 100 |
+-----+-----+
6 rows in set (0.00 sec)
```

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

```
select customer_id,max(purch_amt) from orders
group by customer_id;
```

```
mysql> select customer_id,max(purch_amt) from orders group by customer_id;
```

customer_id	max(purch_amt)
3001	270.65
3002	5760.00
3003	75.29
3004	1983.43
3005	948.50
3007	2400.60
3008	250.45
3009	2480.40

```
8 rows in set (0.00 sec)
```

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

```
select customer_id,order_date,max(purch_amt)
from orders group by customer_id,order_date;
```

```
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	150.50
3002	2016-10-05	65.26
3009	2016-10-10	2480.40
3009	2016-08-17	110.50
3007	2016-07-27	2400.60
3005	2016-09-10	948.50
3002	2016-09-10	5760.00
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)
```

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

```
select salesman_id,max(purch_amt) from orders
where order_date='2016-08-17' group by
salesman_id;
```

```
mysql> select salesman_id,max(purch_amt) from orders where order_date='2016-08-17' group by salesman_id;
```

salesman_id	max(purch_amt)
NULL	110.50
5007	75.29

```
2 rows in set (0.00 sec)
```

23. 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.

```
select customer_id,order_date,max(purch_amt)
from orders group by customer_id,order_date
having max(purch_amt)>2000;
```

```
mysql> select customer_id,order_date,max(purch_amt) from orders group by customer_id,order_date having max(purch_amt)>2000;
```

customer_id	order_date	max(purch_amt)
3009	2016-10-10	2480.40
3007	2016-07-27	2400.60
3002	2016-09-10	5760.00

```
3 rows in set (0.00 sec)
```

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

```
select count(*) from orders where
order_date='2016-08-17';
```

```
mysql> select count(*) from orders where order_date='2016-08-17'
→ ;
```

count(*)
2

```
1 row in set (0.00 sec)
```