```
mysql> create database org;
Query OK, 1 row affected (0.01 sec)

mysql> use org;
Database changed
mysql> create table worker(id int(3),name varchar(25),salary
int(25),department varchar(25));
Query OK, 0 rows affected, 2 warnings (0.03 sec)

mysql> insert into
worker(id,name,salary,department)values(001,'monika',100000,'hr'),(002,'a
diti',800000,'Admin'),(003,'anshi',50000,'hr'),(004,'abhi',5
0000,'admin'),(005,'aditya',20000,'admin'),(006,'adi',75000,'account'),(0
07,
'ansh',90000,'account'),(008,'anika',200000,'admin');
Query OK, 8 rows affected (0.01 sec)
Records: 8  Duplicates: 0  Warnings: 0

mysql> select * from worker
    -> ;
+------+--------+--------+------------+
| id   | name   | salary | department |
+------+--------+--------+------------+
|    1 | monika | 100000 | hr         |
|    2 | aditi  | 800000 | Admin      |
|    3 | anshi  |  50000 | hr         |
|    4 | abhi   |  50000 | admin      |
|    5 | aditya |  20000 | admin      |
|    6 | adi    |  75000 | account    |
|    7 | ansh   |  90000 | account    |
|    8 | anika  | 200000 | admin      |
+------+--------+--------+------------+
8 rows in set (0.00 sec)

mysql> select * from worker where salary > 80000;
+------+--------+--------+------------+
| id   | name   | salary | department |
+------+--------+--------+------------+
|    1 | monika | 100000 | hr         |
|    2 | aditi  | 800000 | Admin      |
|    7 | ansh   |  90000 | account    |
|    8 | anika  | 200000 | admin      |
+------+--------+--------+------------+
4 rows in set (0.00 sec)

mysql> select * from worker where department = 'hr';
+------+--------+--------+------------+
| id   | name   | salary | department |
+------+--------+--------+------------+
|    1 | monika | 100000 | hr         |
|    3 | anshi  |  50000 | hr         |
+------+--------+--------+------------+
2 rows in set (0.00 sec)

mysql> select * from worker where salary between 80000 and 800000;
+------+--------+--------+------------+
| id   | name   | salary | department |
+------+--------+--------+------------+
```

```
|    1 | monika | 100000 | hr         |
|    2 | aditi  | 800000 | Admin      |
|    7 | ansh   |  90000 | account    |
|    8 | anika  | 200000 | admin      |
+------+--------+--------+------------+
4 rows in set (0.00 sec)

mysql> select name,salary from worker where salary > 80000;
+--------+--------+
| name   | salary |
+--------+--------+
| monika | 100000 |
| aditi  | 800000 |
| ansh   |  90000 |
| anika  | 200000 |
+--------+--------+
4 rows in set (0.00 sec)

mysql> select * from worker where department = 'hr' or department =
'admin';

+------+--------+--------+------------+
| id   | name   | salary | department |
+------+--------+--------+------------+
|    1 | monika | 100000 | hr         |
|    2 | aditi  | 800000 | Admin      |
|    3 | anshi  |  50000 | hr         |
|    4 | abhi   |  50000 | admin      |
|    5 | aditya |  20000 | admin      |
|    8 | anika  | 200000 | admin      |
+------+--------+--------+------------+
6 rows in set (0.00 sec)

mysql> select name,salary from worker where salary > 80000;
+--------+--------+
| name   | salary |
+--------+--------+
| monika | 100000 |
| aditi  | 800000 |
| ansh   |  90000 |
| anika  | 200000 |
+--------+--------+
4 rows in set (0.00 sec)

mysql> select * from worker where department in('hr','admin');
+------+--------+--------+------------+
| id   | name   | salary | department |
+------+--------+--------+------------+
|    1 | monika | 100000 | hr         |
|    2 | aditi  | 800000 | Admin      |
|    3 | anshi  |  50000 | hr         |
|    4 | abhi   |  50000 | admin      |
|    5 | aditya |  20000 | admin      |
|    8 | anika  | 200000 | admin      |
+------+--------+--------+------------+
6 rows in set (0.00 sec)

mysql> select * from worker where department not in ('hr','admin');
```

```
+------+------+--------+------------+
| id   | name | salary | department |
+------+------+--------+------------+
|    6 | adi  |  75000 | account    |
|    7 | ansh |  90000 | account    |
+------+------+--------+------------+
2 rows in set (0.00 sec)

mysql> insert into worker values(9,'ankit',NULL,'hr');
Query OK, 1 row affected (0.01 sec)

mysql> select * from worker where salary is NULL;
+------+-------+--------+------------+
| id   | name  | salary | department |
+------+-------+--------+------------+
|    9 | ankit |   NULL | hr         |
+------+-------+--------+------------+
1 row in set (0.00 sec)

mysql> --wildcard
    -> ;
ERROR 1064 (42000): You have an error in your SQL syntax; check the
manual that corresponds to your MySQL server version for the right syntax
to use near '--wildcard' at line 1
mysql> select * from worker where name like %nk%;
ERROR 1064 (42000): You have an error in your SQL syntax; check the
manual that corresponds to your MySQL server version for the right syntax
to use near '%nk%' at line 1
mysql>  select * from worker where name like '%nk%';
+------+-------+--------+------------+
| id   | name  | salary | department |
+------+-------+--------+------------+
|    9 | ankit |   NULL | hr         |
+------+-------+--------+------------+
1 row in set (0.00 sec)

mysql> select * from worker order by salary;
+------+--------+--------+------------+
| id   | name   | salary | department |
+------+--------+--------+------------+
|    9 | ankit  |   NULL | hr         |
|    5 | aditya |  20000 | admin      |
|    3 | anshi  |  50000 | hr         |
|    4 | abhi   |  50000 | admin      |
|    6 | adi    |  75000 | account    |
|    7 | ansh   |  90000 | account    |
|    1 | monika | 100000 | hr         |
|    8 | anika  | 200000 | admin      |
|    2 | aditi  | 800000 | Admin      |
+------+--------+--------+------------+
9 rows in set (0.00 sec)

mysql> select * from worker order by salary ASC;
+------+--------+--------+------------+
| id   | name   | salary | department |
+------+--------+--------+------------+
|    9 | ankit  |   NULL | hr         |
|    5 | aditya |  20000 | admin      |
```

```
|     3 | anshi  |  50000 | hr          |
|     4 | abhi   |  50000 | admin       |
|     6 | adi    |  75000 | account     |
|     7 | ansh   |  90000 | account     |
|     1 | monika | 100000 | hr          |
|     8 | anika  | 200000 | admin       |
|     2 | aditi  | 800000 | Admin       |
+------+--------+--------+-------------+
9 rows in set (0.00 sec)

mysql> select * from worker order by salary DESC;
+------+--------+--------+-------------+
| id   | name   | salary | department  |
+------+--------+--------+-------------+
|     2 | aditi  | 800000 | Admin       |
|     8 | anika  | 200000 | admin       |
|     1 | monika | 100000 | hr          |
|     7 | ansh   |  90000 | account     |
|     6 | adi    |  75000 | account     |
|     3 | anshi  |  50000 | hr          |
|     4 | abhi   |  50000 | admin       |
|     5 | aditya |  20000 | admin       |
|     9 | ankit  |   NULL | hr          |
+------+--------+--------+-------------+
9 rows in set (0.00 sec)

mysql> select distinct department from worker;
+------------+
| department |
+------------+
| hr         |
| Admin      |
| account    |
+------------+
3 rows in set (0.00 sec)

mysql> select department from worker group by department;
+------------+
| department |
+------------+
| hr         |
| Admin      |
| account    |
+------------+
3 rows in set (0.00 sec)

mysql> select department,count(department) from worker group
by department;
+------------+-------------------+
| department | count(department) |
+------------+-------------------+
| hr         |                 3 |
| Admin      |                 4 |
| account    |                 2 |
+------------+-------------------+
3 rows in set (0.00 sec)

mysql> select department,avg(salary) from worker group by dep
```

```
artment;
+-----------+-------------+
| department | avg(salary) |
+-----------+-------------+
| hr         |  75000.0000 |
| Admin      | 267500.0000 |
| account    |  82500.0000 |
+-----------+-------------+
3 rows in set (0.00 sec)
     artment
   ->          epartment,avg(salary) from worker group by dep
   ->
   ->
   -> ;
ERROR 1064 (42000): You have an error in your SQL syntax; check the
manual that corresponds to your MySQL server version for the right syntax
to use near 'artment' at line 2
mysql> select department, min(salary) from worker group by department;
+-----------+-------------+
| department | min(salary) |
+-----------+-------------+
| hr         |       50000 |
| Admin      |       20000 |
| account    |       75000 |
+-----------+-------------+
3 rows in set (0.00 sec)

mysql>  select department, max(salary) from worker group by department;
+-----------+-------------+
| department | max(salary) |
+-----------+-------------+
| hr         |      100000 |
| Admin      |      800000 |
| account    |       90000 |
+-----------+-------------+
3 rows in set (0.00 sec)

mysql>  select department, sum(salary) from worker group by department;
+-----------+-------------+
| department | sum(salary) |
+-----------+-------------+
| hr         |      150000 |
| Admin      |     1070000 |
| account    |      165000 |
+-----------+-------------+
3 rows in set (0.00 sec)

mysql>  select department, count(department) from worker group by
department
having count(department)>2;
ERROR 1064 (42000): You have an error in your SQL syntax; check the
manual that corresponds to your MySQL server version for the right syntax
to use near 'count(department)>2' at line 1
mysql> select department, count(department) from worker group by
department
HAVING COUNT(department) > 2;
+-----------+------------------+
| department | count(department) |
```

```
+-----------+------------------+
| hr        |                3 |
| Admin     |                4 |
+-----------+------------------+
2 rows in set (0.00 sec)
mysql> ALTER TABLE worker ADD interest FLOAT NOT NULL DEFAULT 0;
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM worker;
+------+--------+--------+------------+----------+
| id   | name   | salary | department | interest |
+------+--------+--------+------------+----------+
|    1 | monika | 100000 | hr         |        0 |
|    2 | aditi  | 800000 | Admin      |        0 |
|    3 | anshi  |  50000 | hr         |        0 |
|    4 | abhi   |  50000 | admin      |        0 |
|    5 | aditya |  20000 | admin      |        0 |
|    6 | adi    |  75000 | account    |        0 |
|    7 | ansh   |  90000 | account    |        0 |
|    8 | anika  | 200000 | admin      |        0 |
|    9 | ankit  |   NULL | hr         |        0 |
+------+--------+--------+------------+----------+
9 rows in set (0.00 sec)

mysql> ALTER TABLE worker MODIFY interest DOUBLE NOT NULL DEFAULT 0;
Query OK, 9 rows affected (0.05 sec)
Records: 9  Duplicates: 0  Warnings: 0

mysql> DESC ACCOUNT;
ERROR 1146 (42S02): Table 'org.account' doesn't exist
mysql> DESC worker;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| id         | int         | YES  |     | NULL    |       |
| name       | varchar(25) | YES  |     | NULL    |       |
| salary     | int         | YES  |     | NULL    |       |
| department | varchar(25) | YES  |     | NULL    |       |
| interest   | double      | NO   |     | 0       |       |
+------------+-------------+------+-----+---------+-------+
5 rows in set (0.01 sec)

mysql> ALTER TABLE worker CHANGE COLUMN interest saving_interestFLOAT NOT
NULL DEFAULT 0;
ERROR 1064 (42000): You have an error in your SQL syntax; check the
manual that corresponds to your MySQL server version for the right syntax
to use near 'NOT NULL DEFAULT 0' at line 1
mysql> ALTER TABLE worker CHANGE COLUMN interest saving_interest FLOAT
NOT N
ULL DEFAULT 0;
Query OK, 9 rows affected (0.05 sec)
Records: 9  Duplicates: 0  Warnings: 0

mysql> desc worker;
+-----------------+-------------+------+-----+---------+-------+
| Field           | Type        | Null | Key | Default | Extra |
+-----------------+-------------+------+-----+---------+-------+
```

```
| id             | int         | YES |     | NULL    |       |
| name           | varchar(25) | YES |     | NULL    |       |
| salary         | int         | YES |     | NULL    |       |
| department     | varchar(25) | YES |     | NULL    |       |
| saving_interest | float      | NO  |     | 0       |       |
+----------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> ALTER TABLE worker DROP COLUMN saving_interest;
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc worker;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| id         | int         | YES  |     | NULL    |       |
| name       | varchar(25) | YES  |     | NULL    |       |
| salary     | int         | YES  |     | NULL    |       |
| department | varchar(25) | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> ALTER TABLE worker RENAME TO Worker_details;
Query OK, 0 rows affected (0.01 sec)

mysql> desc worker_details;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| id         | int         | YES  |     | NULL    |       |
| name       | varchar(25) | YES  |     | NULL    |       |
| salary     | int         | YES  |     | NULL    |       |
| department | varchar(25) | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
mysql> UPDATE worker_details SET salary = 100000 WHERE id = 002;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from worker_details;
+------+--------+--------+------------+
| id   | name   | salary | department |
+------+--------+--------+------------+
|    1 | monika | 100000 | hr         |
|    2 | aditi  | 100000 | Admin      |
|    3 | anshi  |  50000 | hr         |
|    4 | abhi   |  50000 | admin      |
|    5 | aditya |  20000 | admin      |
|    6 | adi    |  75000 | account    |
|    7 | ansh   |  90000 | account    |
|    8 | anika  | 200000 | admin      |
|    9 | ankit  |   NULL | hr         |
+------+--------+--------+------------+
9 rows in set (0.00 sec)

mysql> DELETE FROM worker_details WHERE id=009;
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from worker_details;
+------+--------+--------+------------+
| id   | name   | salary | department |
+------+--------+--------+------------+
|    1 | monika | 100000 | hr         |
|    2 | aditi  | 100000 | Admin      |
|    3 | anshi  |  50000 | hr         |
|    4 | abhi   |  50000 | admin      |
|    5 | aditya |  20000 | admin      |
|    6 | adi    |  75000 | account    |
|    7 | ansh   |  90000 | account    |
|    8 | anika  | 200000 | admin      |
+------+--------+--------+------------+
8 rows in set (0.00 sec)

mysql>  REPLACE INTO worker_details (id,department)VALUES(3,account);
ERROR 1054 (42S22): Unknown column 'account' in 'field list'
mysql>  REPLACE INTO worker_details (id,department)VALUES(3,'account');
Query OK, 1 row affected (0.01 sec)

mysql> select * from worker_details;
+------+--------+--------+------------+
| id   | name   | salary | department |
+------+--------+--------+------------+
|    1 | monika | 100000 | hr         |
|    2 | aditi  | 100000 | Admin      |
|    3 | anshi  |  50000 | hr         |
|    4 | abhi   |  50000 | admin      |
|    5 | aditya |  20000 | admin      |
|    6 | adi    |  75000 | account    |
|    7 | ansh   |  90000 | account    |
|    8 | anika  | 200000 | admin      |
|    3 | NULL   |   NULL | account    |
+------+--------+--------+------------+
9 rows in set (0.00 sec)

mysql>  REPLACE INTO worker_details (id,department)VALUES(003,account);
ERROR 1054 (42S22): Unknown column 'account' in 'field list'
mysql>  REPLACE INTO worker_details (id,department)VALUES(003,'account');
Query OK, 1 row affected (0.01 sec)

mysql> select * from worker_details;
+------+--------+--------+------------+
| id   | name   | salary | department |
+------+--------+--------+------------+
|    1 | monika | 100000 | hr         |
|    2 | aditi  | 100000 | Admin      |
|    3 | anshi  |  50000 | hr         |
|    4 | abhi   |  50000 | admin      |
|    5 | aditya |  20000 | admin      |
|    6 | adi    |  75000 | account    |
|    7 | ansh   |  90000 | account    |
|    8 | anika  | 200000 | admin      |
|    3 | NULL   |   NULL | account    |
|    3 | NULL   |   NULL | account    |
+------+--------+--------+------------+
10 rows in set (0.00 sec)
```

```
mysql> CREATE VIEW worker_salary as SELECT name,salary FROM
worker_details W
HERE salary>80000;
Query OK, 0 rows affected (0.04 sec)

mysql> select * from woker_salary;
ERROR 1146 (42S02): Table 'org.woker_salary' doesn't exist
mysql> select * from worker_salary;
+--------+--------+
| name   | salary |
+--------+--------+
| monika | 100000 |
| aditi  | 100000 |
| ansh   |  90000 |
| anika  | 200000 |
+--------+--------+
4 rows in set (0.01 sec)

mysql> CREATE DATABASE join;
ERROR 1064 (42000): You have an error in your SQL syntax; check the
manual that corresponds to your MySQL server version for the right syntax
to use near 'join' at line 1
mysql> CREATE DATABASE arc;
Query OK, 1 row affected (0.08 sec)

mysql> use arc;
Database changed
mysql> CREATE TABLE employee(emp_id INT(20),emp_name varchar(25),city
varchar(25),salary int(20),age int(2));
Query OK, 0 rows affected, 3 warnings (0.06 sec)

mysql> INSERT INTO
employee(emp_id,emp_name,city,salary,age)VALUES(1,'angelina','chicago',20
0000,30),(2,'robert','austin',300000,26),(3,'christian','den
ver',100000,42),(4,'kristen','washington',500000,29),(5,'russel','la',200
000,36),(6,marry,canada,600000,48);
ERROR 1054 (42S22): Unknown column 'marry' in 'field list'
mysql>  INSERT INTO
employee(emp_id,emp_name,city,salary,age)VALUES(1,'angelina','chicago',20
0000,30),(2,'robert','austin',300000,26),(3,'christian','denver',100000,4
2),(4,'kristen','washington',500000,29),(5,'russel','la',200000,36),(6,'m
arry','canada',600000,48);
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> select * from employee;
+--------+-----------+------------+--------+------+
| emp_id | emp_name  | city       | salary | age  |
+--------+-----------+------------+--------+------+
|      1 | angelina  | chicago    | 200000 |   30 |
|      2 | robert    | austin     | 300000 |   26 |
|      3 | christian | denver     | 100000 |   42 |
|      4 | kristen   | washington | 500000 |   29 |
|      5 | russel    | la         | 200000 |   36 |
|      6 | marry     | canada     | 600000 |   48 |
+--------+-----------+------------+--------+------+
6 rows in set (0.01 sec)
```

```
mysql> create table project1(project_no int(3),emp_id int(10),department
varchar(25));
 insert into project1(project_no,emp_id,department)values(101,1,'deve
loper'),(102,2,'managing'),(103,3,'testing'),(104,4,'finance');
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> select * from project1;
+------------+--------+------------+
| project_no | emp_id | department |
+------------+--------+------------+
|        101 |      1 | developer  |
|        102 |      2 | managing   |
|        103 |      3 | testing    |
|        104 |      4 | finance    |
+------------+--------+------------+
4 rows in set (0.00 sec)
mysql>  select employee.emp_name,project1.department from employee inner
join project1 on project1.emp_id = employee.emp_id;
+-----------+------------+
| emp_name  | department |
+-----------+------------+
| angelina  | developer  |
| robert    | managing   |
| christian | testing    |
| kristen   | finance    |
+-----------+------------+
4 rows in set (0.01 sec)

mysql> SELECT EMPLOYEE.emp_name,PROJECT1.department FROM employee LEFT
JOIN
 project1 on PROJECT1.emp_id = employee.emp_id;
+-----------+------------+
| emp_name  | department |
+-----------+------------+
| angelina  | developer  |
| robert    | managing   |
| christian | testing    |
| kristen   | finance    |
| russel    | NULL       |
| marry     | NULL       |
+-----------+------------+
6 rows in set (0.00 sec)

mysql> SELECT employee.emp_name,project1.department FROM employee RIGHT
JOIN
 project1 on project1.emp_id = employee.emp_id;
+-----------+------------+
| emp_name  | department |
+-----------+------------+
| angelina  | developer  |
| robert    | managing   |
| christian | testing    |
| kristen   | finance    |
+-----------+------------+
4 rows in set (0.00 sec)
```

```
mysql> use sets;
Database changed
mysql> CREATE TABLE department1(empid int(10),name varchar(25),role
varchar(25));
Query OK, 0 rows affected, 1 warning (0.04 sec)

mysql> INSERT INTO
department1(empid,name,role)VALUES(1,'A','engineer'),(2,'B','salesman'),(
3,'C','manager'),(4,'D','salesman'),(5,'E','engineer');
Query OK, 5 rows affected (0.02 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> select * from department1;
+-------+------+----------+
| empid | name | role     |
+-------+------+----------+
|     1 | A    | engineer |
|     2 | B    | salesman |
|     3 | C    | manager  |
|     4 | D    | salesman |
|     5 | E    | engineer |
+-------+------+----------+
5 rows in set (0.00 sec)

mysql>  CREATE TABLE department2(empid int(10),name varchar(25),role
varchar
(25));
Query OK, 0 rows affected, 1 warning (0.02 sec)

mysql>  INSERT INTO
department2(empid,name,role)VALUES(3,'C','manager'),(6,'
F','marketing'),(7,'G','salesman');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> select * from department2;
+-------+------+-----------+
| empid | name | role      |
+-------+------+-----------+
|     3 | C    | manager   |
|     6 | F    | marketing |
|     7 | G    | salesman  |
+-------+------+-----------+
3 rows in set (0.00 sec)

mysql> select * from department1 UNION SELECT * FROM department2;
+-------+------+-----------+
| empid | name | role      |
+-------+------+-----------+
|     1 | A    | engineer  |
|     2 | B    | salesman  |
|     3 | C    | manager   |
|     4 | D    | salesman  |
|     5 | E    | engineer  |
|     6 | F    | marketing |
|     7 | G    | salesman  |
+-------+------+-----------+
7 rows in set (0.01 sec)
```

```
mysql> select * from department1 where role = 'salesman' UNION  select *
from department2 where role = 'salesman';
+-------+------+----------+
| empid | name | role     |
+-------+------+----------+
|     2 | B    | salesman |
|     4 | D    | salesman |
|     7 | G    | salesman |
+-------+------+----------+
3 rows in set (0.00 sec)

mysql> select * from department1 inner join department2 using(emp_id);
ERROR 1054 (42S22): Unknown column 'emp_id' in 'from clause'
mysql>  select * from department1 inner join department2 using(empid);
+-------+------+---------+------+---------+
| empid | name | role    | name | role    |
+-------+------+---------+------+---------+
|     3 | C    | manager | C    | manager |
+-------+------+---------+------+---------+
1 row in set (0.00 sec)

mysql> select * from department1 left join department2 using(empid) where
de
partment.empid is null;
ERROR 1054 (42S22): Unknown column 'department.empid' in 'where clause'
mysql>  select * from department1 left join department2 using(empid)
where department2.empid is null;
+-------+------+----------+------+------+
| empid | name | role     | name | role |
+-------+------+----------+------+------+
|     1 | A    | engineer | NULL | NULL |
|     2 | B    | salesman | NULL | NULL |
|     4 | D    | salesman | NULL | NULL |
|     5 | E    | engineer | NULL | NULL |
+-------+------+----------+------+------+
4 rows in set (0.00 sec)
```