Monday, October 28, 2024

SQL

Commands

- Constraints:

1. Not null (NULL VALUES NOT ALLOWED)
2. Unique (DUPLICATES NOT ALLOWED)
3. Check(APPLY CONDITION ON DATA)
4. Default(DEFAULT VALUE)
5. PRIMARY KEY(UNIQUE+NOT NULL)
6. FOREIGN KEY (REFERENCIAL INTEGRITY-REFERING TO ANOTHER TABLE)
7. INDEX (IMPROVING PERFOMANCE)

```
mysql> create table employee( eid int UNIQUE, ename varchar(32) NOT NULL, esal float NOT NULL, age int CHECK (age>18), loc varchar(32) DEFAULT "banglore" );
Query OK, 0 rows affected (0.01 sec)

mysql> desc employee;
+-------+-------------+------+-----+----------+-------+
| Field | Type        | Null | Key | Default  | Extra |
+-------+-------------+------+-----+----------+-------+
| eid   | int         | YES  | UNI | NULL     |       |
| ename | varchar(32) | NO   |     | NULL     |       |
| esal  | float       | NO   |     | NULL     |       |
| age   | int         | YES  |     | NULL     |       |
| loc   | varchar(32) | YES  |     | banglore |       |
+-------+-------------+------+-----+----------+-------+
5 rows in set (0.00 sec)
```

```
mysql> create table employee( eid int PRIMARY KEY , ename varchar(32) not null, esal float not null, age int check (age>18), loc varchar(32) default "banglore" );
Query OK, 0 rows affected (0.02 sec)

mysql> DESC EMPLOYEE;
+-------+-------------+------+-----+----------+-------+
| Field | Type        | Null | Key | Default  | Extra |
+-------+-------------+------+-----+----------+-------+
| eid   | int         | NO   | PRI | NULL     |       |
| ename | varchar(32) | NO   |     | NULL     |       |
| esal  | float       | NO   |     | NULL     |       |
| age   | int         | YES  |     | NULL     |       |
| loc   | varchar(32) | YES  |     | banglore |       |
+-------+-------------+------+-----+----------+-------+
```

OR U CAN WRITE AT LAST PRIMARY KEY(EID) BEFORE ENDING

```
mysql> CREATE TABLE BUNIT(
    -> BU_ID INT NOT NULL, NAME VARCHAR(32) NOT NULL ,PRIMARY_EMAIL VARCHAR(32) NOT NULL,HEADQUARTERS VARCHAR(32) NOT NULL,PRIMARY KEY (BU_ID));
Query OK, 0 rows affected (0.03 sec)

mysql> DESC BUNIT;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| BU_ID         | int         | NO   | PRI | NULL    |       |
| NAME          | varchar(32) | NO   |     | NULL    |       |
| PRIMARY_EMAIL | varchar(32) | NO   |     | NULL    |       |
| HEADQUARTERS  | varchar(32) | NO   |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> INSERT INTO BUNIT VALUES (1,'HR','HR@GMAIL.COM','BANGLORE'),(2,'IT','IT@GMAIL.COM','CHENNAI'),(3,'SALES','SALES@GMAIL.COM','GOA'),(4,'MARKETING','MAR@GMAIL.COM','HYDERABAD');
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> create table employee( eid int  , ename varchar(32) not null, esal float not null, age int check (age>18), loc varchar(32) default "banglore",BU_ID INT,PRIMARY KEY(EID),FOREIGN KEY(BU_ID) REFERENCES BUNIT(BU_ID) );
Query OK, 0 rows affected (0.02 sec)

mysql> DESC EMPLOYEE;
+-------+-------------+------+-----+----------+-------+
| Field | Type        | Null | Key | Default  | Extra |
+-------+-------------+------+-----+----------+-------+
| eid   | int         | NO   | PRI | NULL     |       |
| ename | varchar(32) | NO   |     | NULL     |       |
| esal  | float       | NO   |     | NULL     |       |
| age   | int         | YES  |     | NULL     |       |
| loc   | varchar(32) | YES  |     | banglore |       |
| BU_ID | int         | YES  | MUL | NULL     |       |
+-------+-------------+------+-----+----------+-------+
6 rows in set (0.01 sec)

mysql> INSERT INTO EMPLOYEE VALUES (101,'RAKE','45000',21,'GOA',2);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO EMPLOYEE VALUES (102,'ALTHAF','55000',20,'GOA',5);
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails (`9am`.`employee`, CONSTRAINT `employee_ibfk_1` FOREIGN KEY (`BU_ID`) REFERENCES `bunit` (`BU_ID`))
mysql>
```

To drop the table we need to use drop table table_name;

```
mysql> CREATE TABLE projects(
    -> p_Id VARCHAR(10),
    -> p_Name VARCHAR(32) NOT NULL,
    -> client_Name VARCHAR(32) NOT NULL,
    -> PRIMARY KEY(p_Id)
    -> );
Query OK, 0 rows affected (0.01 sec)

mysql> desc projects;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| p_Id        | varchar(10) | NO   | PRI | NULL    |       |
| p_Name      | varchar(32) | NO   |     | NULL    |       |
| client_Name | varchar(32) | NO   |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
3 rows in set (0.01 sec)

mysql> CREATE TABLE bunit(
    -> bu_Id int,
    -> name VARCHAR(32) NOT NULL,
    -> primary_Email VARCHAR(32) NOT NULL,
    -> PRIMARY KEY(bu_Id)
    -> );
Query OK, 0 rows affected (0.01 sec)

mysql> desc bunit;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| bu_Id         | int         | NO   | PRI | NULL    |       |
| name          | varchar(32) | NO   |     | NULL    |       |
| primary_Email | varchar(32) | NO   |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql> CREATE TABLE employee(
    -> e_Id INT,
    -> e_Name VARCHAR(32) NOT NULL,
    -> e_Sal FLOAT  NOT Null,
    -> p_Id  VARCHAR(10),
    -> bu_Id int,
    -> PRIMARY KEY(e_Id),
    -> FOREIGN KEY(p_Id) REFERENCES projects(p_Id),
    -> FOREIGN KEY(bu_Id) REFERENCES bunit(bu_id)
    -> );
Query OK, 0 rows affected (0.02 sec)

mysql> desc employee;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| e_Id   | int         | NO   | PRI | NULL    |       |
| e_Name | varchar(32) | NO   |     | NULL    |       |
| e_Sal  | float       | NO   |     | NULL    |       |
| p_Id   | varchar(10) | YES  | MUL | NULL    |       |
| bu_Id  | int         | YES  | MUL | NULL    |       |
+--------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

Sql assignment

1. Write a query to fetch people whose last name is same.

ANS:- **select** last_name **from** mock_data **group by** last_name **having** count(*) >1;

2. Write a query to fetch whose age is grater then 70.

ANS:- SELECT first_name FROM mock_data WHERE age>70;

3. Write a query to to fetch people with same city.

Ans:-select name from mock_data group by city having count(*) >1

4. Write a query to to fetch whose name ends with ‘h'.

Ans:- select * from mock_data where first_name like ‘%a';

5. Write a query to count person whose last name ends with ‘i’.

Ans:-select count(*) as count from mock_data where last_name like ‘%i’;

6. Write a query to find person with highest salary.

ANS:-select * from mock_data where salary = (select max(salary) from mock_data);

7. Write a query to find person with lowest salary.

Ans:-select * from mock_data where salary = (select min(salary) from mock_data);

8. Write a query to change last name of person whose id is 102.

Ans:- update mock_data set last_name='rake' where id=102;

9. Write a query to find name of person whose name start's with 'A' and city name starts with ‘B’.

Ans:-select name from mock_data where name like 'a%' and cityname like '%b';

10. Write a query to find person with highest salary in 'New Delhi’.

ANS:-select * from rake where salary=(select max(salary) from rake where city='delhi') and city ='delhi' ;

11. Write a query to to find person who line in 'New Delhi' with age above 70.

Ans:-select * from rake where city='delhi' and age>70;

12. Write a query to find person with salary below 50000.

Ans:-select * from rake where salary<50000;

13. Write a query to find name of people with salary range between 20000 to 40000.

ANS:-select * from rake where salary<40000 and salary>20000;

15. Write a query to find person whose first name third character is ‘j'.

ANS:-select * from rake where last_name like ‘__J%';

16. Write a query to find person whose first name third character is 'j' and live in 'New Delhi’.

ANS:-select * from rake where last_name like ‘__M%’ and city=‘delhi’;

17. Write a query to count persons whose first name third character is ‘j'.

Ans:-select count(*) as count from rake where last_name like ‘__J%';

ALTER command - DDL

adding new COLUMN

modify existing COLUMN

DROP COLUMN

ADD new constraints

modify constraints

DELETE constraint

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SRR

%- matches one or more charters
_ - matches single charter
JOINS:

```
create table dept ( dept_id int , dept_name VARCHAR(32) not null ,primary_email VARCHAR(32)
NOT Null,
   -> hq_loc VARCHAR(32) NOT Null,
   -> PRIMARY KEY(dept_Id)
   -> );
Query OK, 0 rows affected (0.02 sec)
mysql> desc dept;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| dept_id       | int         | NO   | PRI | NULL    |       |
| dept_name     | varchar(32) | NO   |     | NULL    |       |
| primary_email | varchar(32) | NO   |     | NULL    |       |
| hq_loc        | varchar(32) | NO   |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
CREATE TABLE employee(
   -> eid int,
   -> ename VARCHAR(32) NOT Null,
   -> esal FLOAT NOT null,
   -> age INT NOT null,
   -> loc VARCHAR(32) NOT Null,
   -> dept_Id INT,
   -> PRIMARY KEY(eid),
   -> FOREIGN KEY(dept_Id) REFERENCES dept(dept_Id)
   -> );
Query OK, 0 rows affected (0.03 sec)
mysql> DESC employee;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| eid     | int         | NO   | PRI | NULL    |       |
| ename   | varchar(32) | NO   |     | NULL    |       |
| esal    | float       | NO   |     | NULL    |       |
| age     | int         | NO   |     | NULL    |       |
| loc     | varchar(32) | NO   |     | NULL    |       |
| dept_Id | int         | YES  | MUL | NULL    |       |
+---------+-------------+------+-----+---------+-------+
```

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18. Write a query to fetch person with lowest salary and add 10000 to its salary.
Ans:-WITH MinSalary AS (SELECT MIN(salary) AS min_salary FROM rake)
UPDATE rake SET salary = salary + 10000 WHERE salary = (SELECT min_salary FROM MinSalary);
19. Write a query to Sort the table by ascending.
Ans:-SELECT * FROM rake ORDER BY salary ASC;
20. Write a query to Sort the table by descending.
Ans:-SELECT *FROM rake ORDER BY salary DESC;
21. Write a query to show person whose name's last third word is 'j' and salary is more then 30000.
ANS:-SELECT * FROM RAKE WHERE NAME LIKE '%J__' AND SALARY>30000;
22. Write a query to show all people who live in 'Bangalore' and ‘Wayanad’.
ANS:-SELECT FIRST_NAME,CITY FROM RAKE WHERE CITY='BANGLORE' OR CITY ='WAYANAD';
23. Write a query to fetch people with first name conunt is 5.
ANS:-SELECT * FROM RAKE WHERE LENGTH(FIRST_NAME)=5;
24. Write a query to group by people with their age.
ANS:- SELECT age, COUNT(*) AS count FROM rake GROUP BY age;
25. Write a query to insert respective data-(id,fname,age) with values-(109,’Ram’,28).
ANS:-INSERT INTO rake (id, fname, age) VALUES (109, 'Ram', 28);
26. Write a query to find people with null salary.
ANS:-SELECT * FROM rake WHERE salary IS NULL;
27. Write a query to find people whose cities are not null.
ANS:-SELECT *FROM rake WHERE city IS NOT NULL;
28. Write a query to delete data of person whose id is 109.
ANS:-DELETE FROM rake WHERE id = 109;
29. Write a query to group by people with their age and show first three rows of data.
ANS:-SELECT age, COUNT(*) AS count FROM rake GROUP BY age LIMIT 3;
30. Write a query to group by people of 'New Delhi' by their last name.
ANS:-SELECT last_name, COUNT(*) AS count FROM rake
WHERE city = ‘NEWDELHI' GROUP BY last_name;

```
mysql> start transaction;
Query OK, 0 rows affected (0.00 sec)

mysql> savepoint sp1;
Query OK, 0 rows affected (0.00 sec)

mysql> delete from student where id>1;
Query OK, 2 rows affected (0.01 sec)

mysql> select * from student;
+----+--------+-----+
| id | name   | AGE |
+----+--------+-----+
|  1 | RAKESH |  22 |
+----+--------+-----+
1 row in set (0.01 sec)

mysql> rollback to sp1;
Query OK, 0 rows affected (0.00 sec)

mysql> select * from student;
+----+--------+-----+
| id | name   | AGE |
+----+--------+-----+
|  1 | RAKESH |  22 |
|  2 | gouty  |  21 |
|  3 | althaf |  20 |
+----+--------+-----+
3 rows in set (0.00 sec)

mysql> start transaction;
Query OK, 0 rows affected (0.00 sec)

mysql> savepoint sp2;
Query OK, 0 rows affected (0.00 sec)

mysql> truncate table student;
Query OK, 0 rows affected (0.04 sec)

mysql> rollback to sp2;
ERROR 1305 (42000): SAVEPOINT sp2 does not exist
mysql> select * from student;
Empty set (0.01 sec)

mysql>
```

```
Start transaction;
Savepoint sp3;
Delete from student;
Rollback to sp3;
```

```
insert into dept values (1,'IT','it@ibm.com','banglore'),
(2,'operations','operations@ibm.com','chennai'),
(3,'Marketing','marketing@ibm.com','Mysore'),
   -> (4,'Sales','sales@ibm.com','USA');
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> select * from dept;
+---------+------------+-------------------+----------+
| dept_id | dept_name  | primary_email     | hq_loc   |
+---------+------------+-------------------+----------+
|       1 | IT         | it@ibm.com        | banglore |
|       2 | operations | operations@ibm.com | chennai  |
|       3 | Marketing  | marketing@ibm.com  | Mysore   |
|       4 | Sales      | sales@ibm.com     | USA      |
+---------+------------+-------------------+----------+
```

```
insert into employee values(101,'rahul',48000,45,'wayanad',1),
(102,'Sonia',45000.45,52,'Hyberabad',2),
   -> (103,'Priya',45000.45,52,'wayanad',1),
   -> (104,'Modi',45000.45,52,'Hyberabad',2),
   -> (105,'Amith',45000.45,52,'wayanad',1),
   -> (106,'Vijay',45000.45,52,'Hyberabad',2),
   -> (107,'VS',45000.45,52,'wayanad',3);
Query OK, 7 rows affected (0.01 sec)
Records: 7  Duplicates: 0  Warnings: 0

mysql> select * from employee;
```

```
+-----+-------+---------+-----+-----------+---------+
| eid | ename | esal    | age | loc       | dept_Id |
+-----+-------+---------+-----+-----------+---------+
| 101 | rahul |   48000 |  45 | wayanad   |       1 |
| 102 | Sonia | 45000.4 |  52 | Hyberabad |       2 |
| 103 | Priya | 45000.4 |  52 | wayanad   |       1 |
| 104 | Modi  | 45000.4 |  52 | Hyberabad |       2 |
| 105 | Amith | 45000.4 |  52 | wayanad   |       1 |
| 106 | Vijay | 45000.4 |  52 | Hyberabad |       2 |
| 107 | VS    | 45000.4 |  52 | wayanad   |       3 |
+-----+-------+---------+-----+-----------+---------+
```

```
select * from employee,dept;
+-----+-------+---------+-----+-----------+---------+---------+------------+---------------------+----------+
| eid | ename | esal    | age | loc       | dept_Id | dept_id | dept_name  | primary_email       | hq_loc   |
+-----+-------+---------+-----+-----------+---------+---------+------------+---------------------+----------+
| 101 | rahul |   48000 |  45 | wayanad   |       1 |       4 | Sales      | sales@ibm.com       | USA      |
| 101 | rahul |   48000 |  45 | wayanad   |       1 |       3 | Marketing  | marketing@ibm.com   | Mysore   |
| 101 | rahul |   48000 |  45 | wayanad   |       1 |       2 | operations | operations@ibm.com  | chennai  |
| 101 | rahul |   48000 |  45 | wayanad   |       1 |       1 | IT         | it@ibm.com          | banglore |
| 102 | Sonia | 45000.4 |  52 | Hyberabad |       2 |       4 | Sales      | sales@ibm.com       | USA      |
| 102 | Sonia | 45000.4 |  52 | Hyberabad |       2 |       3 | Marketing  | marketing@ibm.com   | Mysore   |
| 102 | Sonia | 45000.4 |  52 | Hyberabad |       2 |       2 | operations | operations@ibm.com  | chennai  |
| 102 | Sonia | 45000.4 |  52 | Hyberabad |       2 |       1 | IT         | it@ibm.com          | banglore |
| 103 | Priya | 45000.4 |  52 | wayanad   |       1 |       4 | Sales      | sales@ibm.com       | USA      |
| 103 | Priya | 45000.4 |  52 | wayanad   |       1 |       3 | Marketing  | marketing@ibm.com   | Mysore   |
| 103 | Priya | 45000.4 |  52 | wayanad   |       1 |       2 | operations | operations@ibm.com  | chennai  |
| 103 | Priya | 45000.4 |  52 | wayanad   |       1 |       1 | IT         | it@ibm.com          | banglore |
| 104 | Modi  | 45000.4 |  52 | Hyberabad |       2 |       4 | Sales      | sales@ibm.com       | USA      |
| 104 | Modi  | 45000.4 |  52 | Hyberabad |       2 |       3 | Marketing  | marketing@ibm.com   | Mysore   |
| 104 | Modi  | 45000.4 |  52 | Hyberabad |       2 |       2 | operations | operations@ibm.com  | chennai  |
| 104 | Modi  | 45000.4 |  52 | Hyberabad |       2 |       1 | IT         | it@ibm.com          | banglore |
| 105 | Amith | 45000.4 |  52 | wayanad   |       1 |       4 | Sales      | sales@ibm.com       | USA      |
| 105 | Amith | 45000.4 |  52 | wayanad   |       1 |       3 | Marketing  | marketing@ibm.com   | Mysore   |
| 105 | Amith | 45000.4 |  52 | wayanad   |       1 |       2 | operations | operations@ibm.com  | chennai  |
| 105 | Amith | 45000.4 |  52 | wayanad   |       1 |       1 | IT         | it@ibm.com          | banglore |
| 106 | Vijay | 45000.4 |  52 | Hyberabad |       2 |       4 | Sales      | sales@ibm.com       | USA      |
| 106 | Vijay | 45000.4 |  52 | Hyberabad |       2 |       3 | Marketing  | marketing@ibm.com   | Mysore   |
| 106 | Vijay | 45000.4 |  52 | Hyberabad |       2 |       2 | operations | operations@ibm.com  | chennai  |
| 106 | Vijay | 45000.4 |  52 | Hyberabad |       2 |       1 | IT         | it@ibm.com          | banglore |
| 107 | VS    | 45000.4 |  52 | wayanad   |       3 |       4 | Sales      | sales@ibm.com       | USA      |
| 107 | VS    | 45000.4 |  52 | wayanad   |       3 |       3 | Marketing  | marketing@ibm.com   | Mysore   |
| 107 | VS    | 45000.4 |  52 | wayanad   |       3 |       2 | operations | operations@ibm.com  | chennai  |
| 107 | VS    | 45000.4 |  52 | wayanad   |       3 |       1 | IT         | it@ibm.com          | banglore |
```

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```
select * from employee emp, dept dpt
  ->              where emp.dept_Id = dpt.dept_Id;
+-----+-------+---------+-----+-----------+---------+---------+------------+--------------------+----------+
| eid | ename | esal    | age | loc       | dept_Id | dept_id | dept_name  | primary_email      | hq_loc   |
+-----+-------+---------+-----+-----------+---------+---------+------------+--------------------+----------+
| 101 | rahul |   48000 |  45 | wayanad   |       1 |       1 | IT         | it@ibm.com         | banglore |
| 103 | Priya | 45000.4 |  52 | wayanad   |       1 |       1 | IT         | it@ibm.com         | banglore |
| 105 | Amith | 45000.4 |  52 | wayanad   |       1 |       1 | IT         | it@ibm.com         | banglore |
| 102 | Sonia | 45000.4 |  52 | Hyberabad |       2 |       2 | operations | operations@ibm.com | chennai  |
| 104 | Modi  | 45000.4 |  52 | Hyberabad |       2 |       2 | operations | operations@ibm.com | chennai  |
| 106 | Vijay | 45000.4 |  52 | Hyberabad |       2 |       2 | operations | operations@ibm.com | chennai  |
| 107 | VS    | 45000.4 |  52 | wayanad   |       3 |       3 | Marketing  | marketing@ibm.com  | Mysore   |
+-----+-------+---------+-----+-----------+---------+---------+------------+--------------------+----------+
```

select emp.ename,dpt.dept_name from employee emp,dept dpt where emp.dept_id= dpt.dept_id;

```
+-------+------------+
| ename | dept_name  |
+-------+------------+
| rahul | IT         |
| Priya | IT         |
| Amith | IT         |
| Sonia | operations |
| Modi  | operations |
| Vijay | operations |
| VS    | Marketing  |
+———+------------+
```

select dpt.dept_name,count(*) as no_of_employees from employee emp,dept dpt where dpt.dept_id=emp.dept_id group by dpt.dept_name ;

```
+------------+-----------------+
| dept_name  | no_of_employees |
+------------+-----------------+
| IT         |               3 |
| operations |               3 |
| Marketing  |               1 |
+------------+-----------------+
```

```
create table  employee (eid int,ename varchar(32) not null ,dept_id int ,primary key
(eid),foreign key (dept_id) references dept(dept_id));
Query OK, 0 rows affected (0.02 sec)

create table dept(dept_id int ,dept_name varchar(32),primary key (dept_id));
Query OK, 0 rows affected (0.01 sec)

insert into dept(dept_id) values (5);
Query OK, 1 row affected (0.00 sec)

mysql> select * from dept;
+---------+-------------+
| dept_id | dept_name   |
+---------+-------------+
|       1 | it          |
|       2 | sales       |
|       3 | marketing   |
|       4 | opertations |
|       5 | NULL        |
+———————+-------------+


mysql> insert into employee values (101,'rahul',1),(102,'sonia',2),(103,'priyanka',3),
(104,'modi',4);
Query OK, 4 rows affected (0.00 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> insert into employee (eid,ename) values (105,'amit');
Query OK, 1 row affected (0.00 sec)

mysql> select * from employee;
+-----+----------+---------+
| eid | ename    | dept_id |
+-----+----------+---------+
| 101 | rahul    |       1 |
| 102 | sonia    |       2 |
| 103 | priyanka |       3 |
| 104 | modi     |       4 |
| 105 | amit     |    NULL |
+-----+----------+---------+
select * from employee,dept where dept.dept_id=employee.dept_id;
```

```
+-----+----------+---------+---------+-------------+
| eid | ename    | dept_id | dept_id | dept_name   |
+-----+----------+---------+---------+-------------+
| 101 | rahul    |       1 |       1 | it          |
| 102 | sonia    |       2 |       2 | sales       |
| 103 | priyanka |       3 |       3 | marketing   |
| 104 | modi     |       4 |       4 | opertations |
+-----+----------+---------+---------+-------------+
```

INNER JOIN:

```
SELECT emp.ename, dpt.dept_name FROM employee emp INNER JOIN dept dpt ON emp.dept_id = dpt.dept_id;
+----------+-------------+
| ename    | dept_name   |
+----------+-------------+
| rahul    | it          |
| sonia    | sales       |
| priyanka | marketing   |
| modi     | opertations |
+——————+-------------+
```

Left join :

```
select emp.ename,dpt.dept_name from employee emp left join dept dpt on
dpt.dept_id=emp.dept_id;
+----------+-------------+
| ename    | dept_name   |
+----------+-------------+
| rahul    | it          |
| sonia    | sales       |
| priyanka | marketing   |
| modi     | opertations |
| amit     | NULL        |
+———————+-------------+
```

Right join:

```
select emp.ename,dpt.dept_name from employee emp right join dept dpt on
dpt.dept_id=emp.dept_id;
+----------+-------------+
| ename    | dept_name   |
```

+----------+-------------+
rahul	it
sonia	sales
priyanka	marketing
modi	opertations
NULL	NULL
+———————+-------------+

select emp.ename,dpt.dept_name,dpt.dept_id from employee emp right join dept dpt on dpt.dept_id=emp.dept_id;
+----------+-------------+---------+
| ename | dept_name | dept_id |
+----------+-------------+---------+
rahul	it	1
sonia	sales	2
priyanka	marketing	3
modi	opertations	4
NULL	NULL	5
+----------+-------------+---------+
5 rows in set (0.00 sec)

mysql> select emp.ename,dpt.dept_name,dpt.dept_id from employee emp left join dept dpt on dpt.dept_id=emp.dept_id;
+----------+-------------+---------+
| ename | dept_name | dept_id |
+----------+-------------+---------+
rahul	it	1
sonia	sales	2
priyanka	marketing	3
modi	opertations	4
amit	NULL	NULL
+----------+-------------+---------+

select emp.ename,dpt.dept_name,dpt.dept_id from employee emp cross join dept dpt;;
+----------+-------------+---------+
| ename | dept_name | dept_id |
+----------+-------------+---------+
amit	it	1
modi	it	1
priyanka	it	1
sonia	it	1
rahul	it	1
amit	sales	2
modi	sales	2
priyanka	sales	2
sonia	sales	2
rahul	sales	2

```
| amit    | marketing   |       3 |
| modi    | marketing   |       3 |
| priyanka | marketing   |       3 |
| sonia   | marketing   |       3 |
| rahul   | marketing   |       3 |
| amit    | opertations |       4 |
| modi    | opertations |       4 |
| priyanka | opertations |       4 |
| sonia   | opertations |       4 |
| rahul   | opertations |       4 |
| amit    | NULL        |       5 |
| modi    | NULL        |       5 |
| priyanka | NULL        |       5 |
| sonia   | NULL        |       5 |
| rahul   | NULL        |       5 |
+---------+-------------+---------+
```