

1:Primary Key

2:Foreign Key

3:Table join

=====

Primary Key: A primary key is field which can uniquely identify each row in a table . and this constraints is used to specify a field in a table as primary key.

```
create table parant( empid int primary key , name varchar(40), city varchar(40));
```

This data will not allowed because empid has duplicate value

```
mysql> insert into parant (empid,name, city)
      values(1,"abhay","Pune"),
      (2,"Kumar","Delhi"),
      (3,"Mohan","Kolkata"),
      (4,"Jay","MumBai");
insert into parant (empid,name, city) values (5,"kkk","MumBai");
```

We apply constarints : Primary Key.

EMP : primary Tbale

```
+-----+-----+-----+
| empid | name | city |
+-----+-----+-----+
| 1 | abhay | Pune |
| 2 | Kumar | Delhi |
| 3 | Mohan | Kolkata |
| 4 | Jay | MumBai |
+-----+-----+-----+
4 rows in set (0.00 sec)
```

second Table:

```
create table emp1(
empid int,
name varchar(40),
city varchar(40)
);
```

Adding Primary Key on Table:

```
mysql> alter table emp1 add primary key(empid);
```

Query OK, 0 rows affected (0.28 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> desc emp1;
```

Field	Type	Null	Key	Default	Extra
empid	int	NO	PRI	NULL	
name	varchar(40)	YES		NULL	
city	varchar(40)	YES		NULL	

3 rows in set (0.00 sec)

2nd Constraints:

Foreign key

=====

It is a field in a table that matches another field of another table .

It is used to maintain the referential integrity.

A foreign key makes it possible to create a parent-child relationship.

constraint: It is clause allows to define constraints name for the foreign key constraints.
if we don't put the constraint name the mysql creates automatically.

```
create table child(  
  did int primary key,  
  depname varchar(40),  
  empid int,  
  constraint emp_id_fk  
  foreign key(empid) references parent(empid)  
);
```

Insert data into dept table

```

insert into chield (did,depname,empid)
  values(101,"IT",3),
  (102,"HR",1),
  (103,"admin",2),
  (104,"Sales",4);
  (105,"Marketng",5);
insert into chield(did,depname,empid) values (105,"Marketng",5);

```

Emp: Parant

```

-----+-----+-----+
| empid | name | city |
+-----+-----+-----+
| 1 | abhay | Pune |
| 2 | Kumar | Delhi |
| 3 | Mohan | Kolkata |
| 4 | Jay | MumBai |
+-----+-----+-----+

```

Dep: Chield

```

+-----+-----+-----+
| did | depname | empid |fk_dep
+-----+-----+-----+
| 101 | IT | 3 |
| 102 | HR | 1 |
| 103 | admin | 2 |
| 104 | Sales | 4 |
+-----+-----+-----+

```

```

insert into emp_details values(5,"Mukesh","Pune");

```

```

mysql> insert into dep values(105,"Marketing",5);
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails
(`codnera`.`dep`, CONSTRAINT `emp_id_fk` FOREIGN KEY (`empid`) REFERENCES `emp`
(`empid`))

```

/* Joininig The Table =====*/

Inner Join :

Equi Join:

Non- equi Join

Natural Join

2: Corss Join

3: Outer Join:

let join

right join

full join

=====

```
select * from parant;
```

```
+-----+-----+-----+
| empid | name  | city  |
+-----+-----+-----+
| 1 | abhay | Pune  |
| 2 | Kumar | Delhi |
| 3 | Mohan | Kolkata |
| 4 | Jay   | MumBai |
+-----+-----+-----+
```

```
select * from parant;
```

```
+-----+-----+-----+
| did | depname | empid |
+-----+-----+-----+
| 101 | IT      | 3 |
| 102 | HR      | 1 |
| 103 | admin   | 2 |
| 104 | Sales   | 4 |
+-----+-----+-----+
```

```
SELECT  parant.name,parant.city , chield .depname FROM parant  INNER JOIN chield on  
parant.empid = chield.empid;
```