PRIMARY KEY FOREIGN KEY

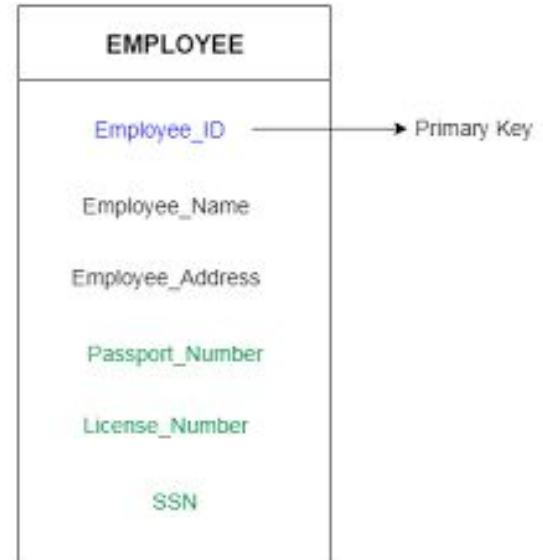# PRIMARY KEY...

Uniquely identifies an instance from an entity.

Things to keep in mind..!

- NOT NULL

- Unique for each row of the table.

- One table → One primary key constraint.

- All the attributes of primary key constraint should not be NULL

```
mysql> use student
Database changed
mysql> create table details(rollno int primary key, name varchar(30), mobile varchar(20), subject varchar(20));
Query OK, 0 rows affected (1.23 sec)

mysql> describe details;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| rollno  | int         | NO   | PRI | NULL    |       |
| name    | varchar(30) | YES  |     | NULL    |       |
| mobile  | varchar(20) | YES  |     | NULL    |       |
| subject | varchar(20) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
4 rows in set (0.01 sec)

mysql>
```

CREATE TABLE tablename (
attribute datatype;
attribute datatype;
.
.
.
PRIMARY KEY (attribute)
);

```
mysql> create table marks
    -> (
    -> id int,
    -> maths int,
    -> science int,
    -> english int
    -> );
Query OK, 0 rows affected (0.90 sec)

mysql> describe marks;
+---------+------+------+-----+---------+-------+
| Field   | Type | Null | Key | Default | Extra |
+---------+------+------+-----+---------+-------+
| id      | int  | YES  |     | NULL    |       |
| maths   | int  | YES  |     | NULL    |       |
| science | int  | YES  |     | NULL    |       |
| english | int  | YES  |     | NULL    |       |
+---------+------+------+-----+---------+-------+
4 rows in set (0.03 sec)

mysql> alter table marks add primary key (id);
Query OK, 0 rows affected (2.15 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe marks;
+---------+------+------+-----+---------+-------+
| Field   | Type | Null | Key | Default | Extra |
+---------+------+------+-----+---------+-------+
| id      | int  | NO   | PRI | NULL    |       |
| maths   | int  | YES  |     | NULL    |       |
| science | int  | YES  |     | NULL    |       |
| english | int  | YES  |     | NULL    |       |
+---------+------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql>
```

ALTER TABLE tablename
ADD CONSTRAINT constraint_name
PRIMARY KEY (attribute,attribute);

```
mysql> alter table marks drop primary key;
Query OK, 0 rows affected (2.84 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe marks;
+---------+------+------+-----+---------+-------+
| Field   | Type | Null | Key | Default | Extra |
+---------+------+------+-----+---------+-------+
| id      | int  | NO   |     | NULL    |       |
| maths   | int  | YES  |     | NULL    |       |
| science | int  | YES  |     | NULL    |       |
| english | int  | YES  |     | NULL    |       |
+---------+------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql>
```

ALTER TABLE tablename
DROP CONSTRAINTS
constraint_name;

FOREIGN KEY
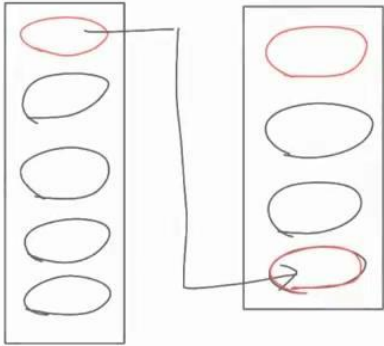
- Foreign key in one table → Primary key in another table

- Used to link tables

- Table with foreign key → Child table

- Table with primary table → Parent table

```
mysql> use ecom
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> describe product;
+---------------------+-------------+------+-----+---------+-------+
| Field               | Type        | Null | Key | Default | Extra |
+---------------------+-------------+------+-----+---------+-------+
| product_id          | int         | NO   | PRI | NULL    |       |
| product_name        | varchar(20) | YES  |     | NULL    |       |
| product_price       | int         | YES  |     | NULL    |       |
| product_description | varchar(20) | YES  |     | NULL    |       |
| category_id         | int         | YES  | MUL | NULL    |       |
+---------------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> describe category;
+----------------------+-------------+------+-----+---------+-------+
| Field                | Type        | Null | Key | Default | Extra |
+----------------------+-------------+------+-----+---------+-------+
| category_id          | int         | NO   | PRI | NULL    |       |
| category_name        | varchar(20) | YES  |     | NULL    |       |
| category_description | varchar(20) | YES  |     | NULL    |       |
+----------------------+-------------+------+-----+---------+-------+
3 rows in set (0.01 sec)

mysql> 
```

CREATE TABLE tablename (
   attribute datatype,
   attribute datatype,
   .
   .
   PRIMARY KEY (attribute),
   FOREIGN KEY (attribute) REFERENCES table(primarykey_that_is_used)
);

```
mysql> use ecom
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> describe category;
+----------------------+-------------+------+-----+---------+-------+
| Field                | Type        | Null | Key | Default | Extra |
+----------------------+-------------+------+-----+---------+-------+
| category_id          | int         | NO   | PRI | NULL    |       |
| category_name        | varchar(20) | YES  |     | NULL    |       |
| category_description | varchar(20) | YES  |     | NULL    |       |
+----------------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql> describe product;
+---------------------+-------------+------+-----+---------+-------+
| Field               | Type        | Null | Key | Default | Extra |
+---------------------+-------------+------+-----+---------+-------+
| product_id          | int         | NO   | PRI | NULL    |       |
| product_name        | varchar(20) | YES  |     | NULL    |       |
| product_price       | int         | YES  |     | NULL    |       |
| product_description | varchar(20) | YES  |     | NULL    |       |
| category_id         | int         | YES  | MUL | NULL    |       |
+---------------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> SELECT *
    -> FROM product
    -> WHERE category_id=3;
+------------+---------------+---------------+---------------------+-------------+
| product_id | product_name  | product_price | product_description | category_id |
+------------+---------------+---------------+---------------------+-------------+
|          7 | Pista         |           677 | pack of 2           |           3 |
|         11 | Hand Sanitizer|           215 | Semi gel            |           3 |
|         12 | Yogafy coffee |           999 | Vanilla flavoured   |           3 |
|         15 | cooking oil   |           278 | pack of 2           |           3 |
+------------+---------------+---------------+---------------------+-------------+
4 rows in set (0.01 sec)

mysql>
```

```
Database changed
mysql> describe product;
+---------------------+-------------+------+-----+---------+-------+
| Field               | Type        | Null | Key | Default | Extra |
+---------------------+-------------+------+-----+---------+-------+
| product_id          | int         | NO   | PRI | NULL    |       |
| product_name        | varchar(20) | YES  |     | NULL    |       |
| product_price       | int         | YES  |     | NULL    |       |
| product_description | varchar(20) | YES  |     | NULL    |       |
| category_id         | int         | YES  | MUL | NULL    |       |
+---------------------+-------------+------+-----+---------+-------+
5 rows in set (0.01 sec)

mysql> describe category;
+----------------------+-------------+------+-----+---------+-------+
| Field                | Type        | Null | Key | Default | Extra |
+----------------------+-------------+------+-----+---------+-------+
| category_id          | int         | NO   | PRI | NULL    |       |
| category_name        | varchar(20) | YES  |     | NULL    |       |
| category_description | varchar(20) | YES  |     | NULL    |       |
+----------------------+-------------+------+-----+---------+-------+
3 rows in set (0.01 sec)

mysql> select product_name,product.category_id,category_name
    -> from product, category
    -> where product.category_id = category.category_id;
+-----------------+-------------+---------------+
| product_name    | category_id | category_name |
+-----------------+-------------+---------------+
| Hauwei Y9       |           1 | Electronics   |
| Poco M2 Pro     |           1 | Electronics   |
| Laser printer   |           1 | Electronics   |
| Rice Cooker     |           2 | HomeKitchen   |
| Pista           |           3 | Grocery       |
| Hand Sanitizer  |           3 | Grocery       |
| Yogafy coffee   |           3 | Grocery       |
| cooking oil     |           3 | Grocery       |
| Lakme LipBalm   |           4 | BeautySkincare|
| mcaffine giftbox|           4 | BeautySkincare|
| Mokobara        |           5 | Bags          |
| Provogue        |           5 | Bags          |
| fur remover     |           6 | Pet supplies  |
| Davincicode     |           7 | Books         |
| Sofa            |           8 | Furniture     |
+-----------------+-------------+---------------+
15 rows in set (0.00 sec)

mysql>
```

VIEWS

SELECT attribute1, attribute2..
FROM [SELE

- Considered as virtual table

- Contains rows and columns

```
mysql> create view productdetails as
    -> select product_name,product_price
    -> from product
    -> where category_id=3;
Query OK, 0 rows affected (0.62 sec)

mysql> select * from productdetails;
+----------------+---------------+
| product_name   | product_price |
+----------------+---------------+
| Pista          |           677 |
| Hand Sanitizer |           215 |
| Yogafy coffee  |           999 |
| cooking oil    |           278 |
+----------------+---------------+
4 rows in set (0.02 sec)

mysql>
```

```
Database changed
mysql> create view orderdetails as
    -> ( select customer.username,product.product_name
    -> from orders
    -> inner join customer on
    -> orders.customer_id = customer.customer_id
    -> inner join product on
    -> orders.product_id = product.product_id
    -> );
Query OK, 0 rows affected (0.35 sec)

mysql> select * from orderdetails;
+------------+------------------+
| username   | product_name     |
+------------+------------------+
| rashad     | Provogue         |
| rashad     | Hand Sanitizer   |
| devi       | Davincicode      |
| jini       | Hauwei Y9        |
| jeevan     | Laser printer    |
| anagha     | Mokobara         |
| anagha     | Hand Sanitizer   |
| dayanae    | Pista            |
| dayanae    | fur remover      |
| vrinda     | mcaffine giftbox |
| mishamohan | Sofa             |
| imthiyas   | Provogue         |
| anagha     | cooking oil      |
| jini       | Hand Sanitizer   |
| jini       | Hand Sanitizer   |
| anagha     | Lakme LipBalm    |
| rashad     | Hand Sanitizer   |
+------------+------------------+
17 rows in set (0.14 sec)

mysql> select * from orderdetails where username=dayanae;
ERROR 1054 (42S22): Unknown column 'dayanae' in 'where clause'
mysql> select * from orderdetails where username='dayanae';
+----------+--------------+
| username | product_name |
+----------+--------------+
| dayanae  | Pista        |
| dayanae  | fur remover  |
+----------+--------------+
2 rows in set (0.00 sec)

mysql>
```

THANK YOU