

05-07-2025

Agenda - Database - III

① Core-Sql →

② learning → ~~pgAdmin 4~~

→ python (Jupyter)

Core-Sql : -

Types of keys in Relational Model

Customer_id	name	email	Phone - no
1	monal	m@gmail.com	999900
2	Dhargav	b@gmail.com	999800
3	aswathip	a@gmail.com	999700

→ keys - are special column (set of column) that uniquely identify row & define relationship.

→ keys play an important role to define constraint in database value as well.

→ cust\_id, email, phone-no

(1) primary key - Uniquely identify each row in a table.

(Imp) → customer\_id (PRIMARY key)

→ cannot be NULL

→ Unique

(2) Candidate key - Any column or combination of columns that can uniquely identify rows.

→ There can be multiple candidate keys

→ one is chosen as primary key

customer\_id → primary key

email

customer\_id, phone-no

customer\_id, email

customer\_id, name

name, email

### (3) Alternate key

- candidate key that was not chosen as the primary key.

### (4) Composite key

- primary key made of more than one column.

### (5) Foreign key

- (Imp) - column that refers to the primary key of another table.

Customer :

Customer_id	name	email	phone-no
1	manal	m@gmail.com	999900
2	Bhargav	b@gmail.com	999800
3	aswathi	a@gmail.com	999700

↑  
PK

Orders :

Order_id	Customer_id	Order-date
1	1	25-04-2025
2	3	27-05-2025
3	100	01-03-2025

↑  
PK

↑  
FK

FK(Orders) is a PK(Customer)

### (6) Unique key

- A column that must have unique value.
- Unlike primary key, can have NULL values.
- phone-no

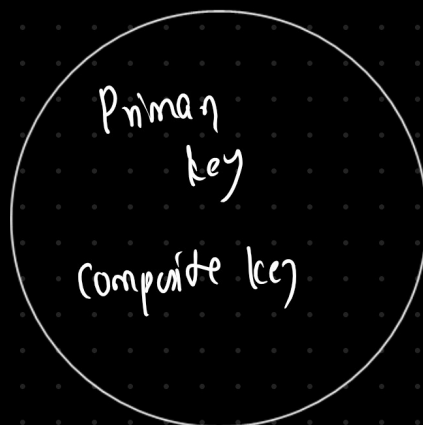
email, phone, id

$\boxed{p_1}$  want to identify each row uniquely  
\* 1 column

→ Primary key

$\boxed{p_1}$  want to identify each row uniquely  
\* N column

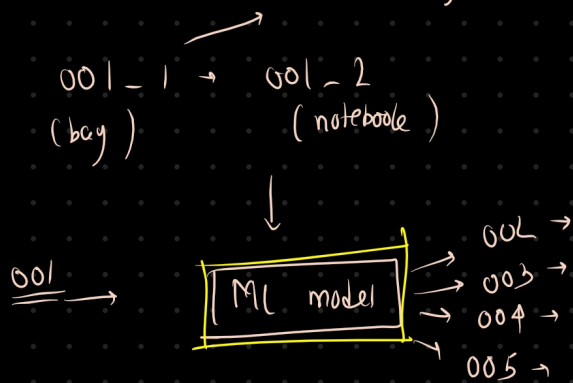
→ Composite key



candidate key



(3) feature engineering → categorical data  
 → clean  
 → analysis  
 → Machine Learning  
 → Recommendation system.



(1) connection → DB

(2) Connection → cursor → running query  
 to the DB

(3) define query to run (select \* from album;)

(4) cursor(query).execute()

(5) result = cursor.fetchone() → first one      df.head()

result = cursor.fetchall()

for col\_1, col\_2, col\_3 in result

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