

# CRUD operations in SQL

## \* Agenda

↳ What is CRUD?

↳ What is Sakila

↳ CRUD

↳ Create ✓

↳ Read ✓

↳ Distinct values

↳ Select

↳ Operations on Columns

↳ Insert data from another table

↳ Where Clause

↳ AND, OR, NOT,

↳ IN Operator

## Create

### \* CRUD

Students


Primarily 4 operations on table :-

- ↳ C - Create → add data/table
- ↳ R - Read → fetch
- ↳ U - Update →
- ↳ D - Delete →

Sakila Official sample DB provided by MySQL  
↳ digital video rental store

⊗ Create

↳ used to create new entries in the table

INSERT → add records/rows to a table

INSERT INTO <table-name> (col1, col2, ...) VALUES

(  
(  
(

optional

?

SQL is case-insensitive  
(syntax)

'Ankit' ✓

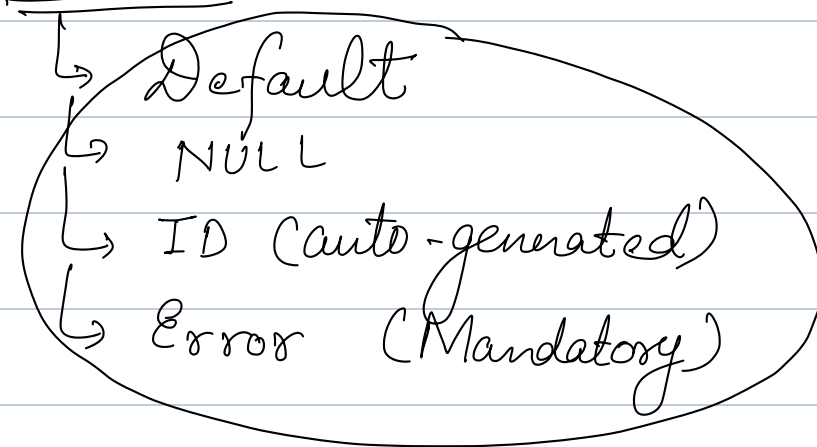
'ankit' ✓

⑧ Specify col<sup>s</sup> explicitly (not compulsory)

↓  
when not specified

⇓

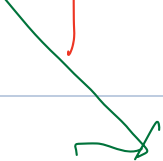
Potential cases



⑨ You don't define col<sup>s</sup> headers in INSERT,  
what prob.?

- ① Its not a good practice
- ② Tedious
- ③ You'll have to specify all col. values during insert

col1, col2, col3, col4      → int  
↓  
col1, col2, col5, col3, col4      → string (varchar)



✓	✓				
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15 cols.

INSERT INTO FILM  
VALUES  
( 1, "Taru -", ~~4.9~~,

5/15 col.  
optional

( , , , , )

NULL

VALUES

## ⊗ READ

SELECT → Read Data from table  
(fetch)

SELECT \* from <table-name>;

SELECT title, description  
FROM film;

## ⊗ Alias Col header

"AS"

✓ SELECT description AS 'FILM\_desc'  
FROM film;

## ⊗ DISTINCT

To get distinct col values  
(set)

11:10 pm

## ⊗ Pseudo Code for Queries :-

~~table~~ = [ { }, { }, { }, { }, ... ]

SELECT \* FROM <table-name>;

Code

answer = [ ]

for each row in film :

answer.append(row);

return answer;

row[rating]

⊗ SELECT rating FROM film;

filtered-ans = [ ];

for each row in ans:

filtered ans.append(row[rating]);

return filtered-ans;

(\*) DISTINCT (internal code)

```
SELECT DISTINCT  
rating, release-year  
FROM film;
```

answer []

for each row in film:

answer.append(row)

filtered\_ans = []

for each row in answer:

filtered\_ans.append(row['rating'],  
row['release-year'])

unique\_answer = set(filtered\_ans);

return unique\_answer;

(\*) Select a constt / Print statement in SQL.

```
SELECT 'HELLO WORLD';
```

print

name	
Salim	Hello World
ABC	Hell World
XYZ	"
PQR	"

SELECT name, 'HELLO WORLD' from  
FILM;

Change col. name

from FILM

As Random-name

⊗ Operations on columns :-

~~duration~~ length → in mins.  
(Film) [in Sahara]

SELECT name, length from film;

Req: give length in hours.

..., length/60 ~



Req. give rounded values

— — — — —,  $\text{round}(\text{length}/60)$  — — — — —

① Film (table)  $\begin{cases} \rightarrow \text{Rental duration} \\ \rightarrow \text{length (of movie)} \end{cases}$  } assume all in mins.

How many max. no. of times can I watch the movie?

Rental  $\rightarrow$  100 mins.  
length  $\rightarrow$  40 mins

select name,  $\text{FLOOR}(\text{rental duration}/\text{length})$   
from film;

⊗ INSERT from another table.

film-copy  $\rightarrow$  table.

INSERT INTO film-copy (col1, col2, ....)

VALUES  
( ,  
( ,  
( ,

$\rightarrow$  SELECT  
col1, col2, ....  
from film

