SCALER

CRUD - 1

TABLE OF CONTENTS

5th Hard day challenge :

1. Assignment Questⁿ
2. Clear backlog (Previous session's assign)
3. Additional questions
4. Practice queries

Create

- Create database
- Create table
- Adding new entries

Now we will understand how to add a new entry in a table.

< / > Syntax

```
Insert into table_name ( col1, col2 )
            values ( values_1, values_2 );
```

Column names are optional. In case we don't put column names values will be mapped accordingly to the order of column and we have to give value even for auto-increment / default column.

film_id	title	description	release_year	language_id	original_language_id	rental_duration	rental_rate	length	replacement_cost	rating	special_features	last_update

```
INSERT INTO film
VALUES (default, 'The Dark Knight', 'Batman fights the Joker', 2008, 1, NULL, 3, 4.99, 152, 19.99, 'PG-13', 'Trailers', default);
```

Drawbacks

1. This is not a good practice, as it makes the query prone to errors. So always specify the column names.
2. This makes writing queries tedious, as while writing query you have to keep a track of what column was where. And even a small miss can lead to a big error.
3. If you don't specify column names, then you have to specify values for all the columns, including film_id, original_language_id and last_update, which we may want to keep NULL.

Read

- Print ~ Select
- You may print constant data or data from tables.
- Most used query

< / > Syntax

- Printing constant value :

```
SELECT constant_value;
```

- Printing data of whole table :

```
SELECT *
FROM table;
```

Students

id	first_name	last_name	psp
1	Virat	Kohli	80
2	Rahul	KL	75
3	Rohit	Sharma	95
4	Rahul	KL	80

- Printing some columns from a table :

    SELECT col1, col4

    FROM table;

Students

id	first_name	last_name	psp
1	Virat	Kohli	80
2	Rahul	KL	75
3	Rohit	Sharma	95
4	Rahul	KL	80

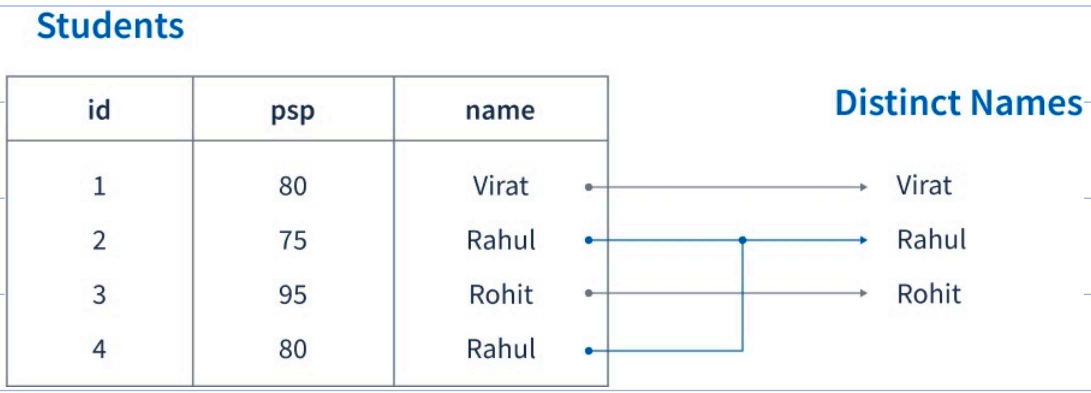
< / > Pseudo-code

```
table_name : [ [] , [] , [] , [] ]
ans = [ ]  → intermediatory table
for row in table_name :
        ans.add( row )

for row in ans :
        print( row )
```

Distinct (Gives output of all unique values)

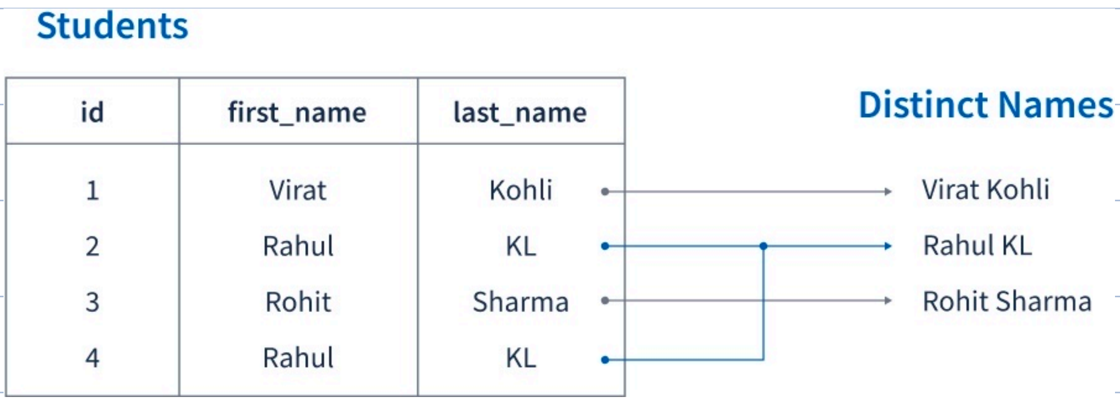
- Distinct names :



Students

id	psp	name
1	80	Virat
2	75	Rahul
3	95	Rohit
4	80	Rahul

- Distinct pair of first_name and last_name :



Students

id	first_name	last_name
1	Virat	Kohli
2	Rahul	KL
3	Rohit	Sharma
4	Rahul	KL

- It should be first word after SELECT.
- It can be applied on pair as well.
- Filters out duplicates.

< / > Syntax

```
SELECT distinct, release_year, rating FROM film;
```

< / > Pseudo-code

```
film : [ [ ] , [ ] , [ ] , [ ] ]
ans = [ ]  → intermediatory answer
for row in film :
        ans.add( row )
filtered_ans = [ ]
for row in ans :
        filtered_ans.add( row [release_year], row [rating] )

unique_ans = set (filtered_ans)

print (unique_ans)
```

Inserting data from other table using SELECT

- We want to create a copy of students table where the data includes their id, name and last_name.

Students

id	name	last_name	psp	attendance
1	Rohit	Sharma	80	85
2	Virat	Kohli	75	85
3	Shubhman	Gill	95	95
4	Rahul	KL	92	85
5	Rishabh	Pant	80	88

Students Copy

id	name	last_name

Should I add all the data one by one ?

NO. We have a solution for that.

< / > Syntax

Code to insert data from existing table :

```
insert into students_copy(first_name, last_name)
SELECT first_name, last_name
FROM students;
```

$\longrightarrow$ *Where to insert*

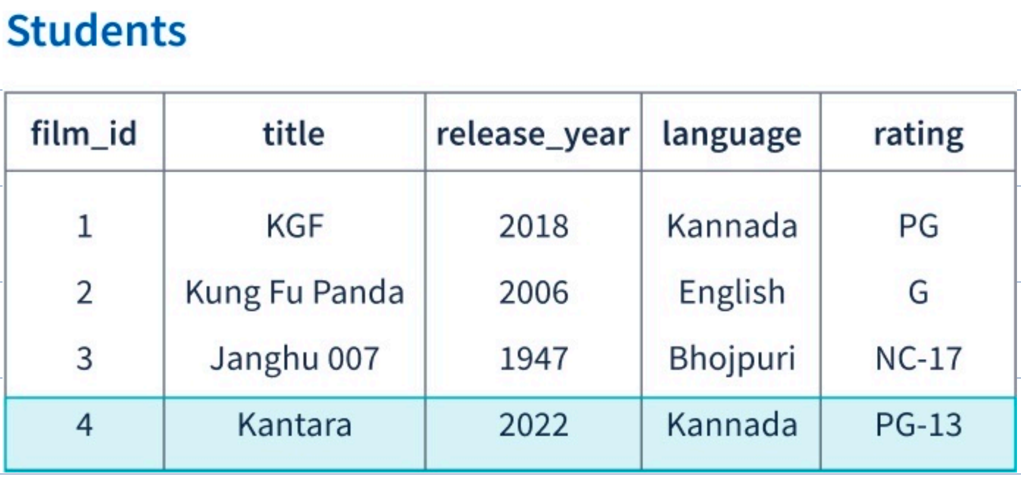
$\longrightarrow$ *What to insert*

Where (Similar to if condition)

Question : Get all the movies with ' PG-13 ' ratings.

Note : Assume if it is an array, how will you filter the data ? using If condition.

- We have where condition in SQL.



Students

film_id	title	release_year	language	rating
1	KGF	2018	Kannada	PG
2	Kung Fu Panda	2006	English	G
3	Janghu 007	1947	Bhojpuri	NC-17
4	Kantara	2022	Kannada	PG-13

< / > Syntax

```
SELECT *
FROM film where rating = 'PG-13' ;
```

< / > *Pseudo-code*

```
table_name : [ [] , [] , [] , [] ]
ans = [ ]
for row in table_name :
        if row.matches( condition in where clause )
            ans.add( row )

for row in ans :
        print( row )
```

AND, OR, NOT

- These are same as logical operators we have seen so far.
- AND = AND
- OR = OR
- NOT = < > , ! = , NOT

Order By

- Order by clause allows to return value in a sorted order.
- By default the data is ordered in ascending order.

Question : Order the data in descending order according to rental_duration.

< / > Syntax

```
SELECT  *  FROM film ORDER BY rental_duration desc;
```

- In case of tie, PK is always a tie-breaker.

Primary Key

film_id	title	rental_duration
1	KGF	1.5 hrs
2	Kung Fu Panda	2.2 hrs
3	Janghu 007	3.5 hrs
4	Kantara	2.2 hrs

$\xrightarrow[\text{Order}]{\text{Ascending}}$

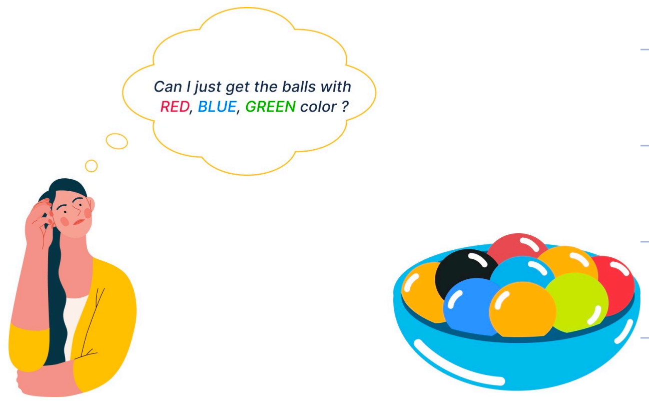
film_id	title	rental_duration
1	KGF	1.5 hrs
2	Kung Fu Panda	2.2 hrs
4	Kantara	2.2 hrs
3	Janghu 007	3.5 hrs

- **Order By two column**

< / > Syntax

```
SELECT   *
FROM   film
ORDER BY   title, release_year ;
```

IN Operator



Question : Give data of all the students with batch_id 5 , 2 , 7 , 1 , 3.

< / > Syntax

```
SELECT   *
FROM     students
WHERE    batch_id = 5
    or     batch_id = 2
    or     batch_id = 7
    or     batch_id = 1
    or     batch_id = 3
```

- Here we can use IN operator instead of multiple OR operator.

</ > Syntax

```
SELECT   *
FROM     table
WHERE    value in ( list of values )
```

🤔