NORTH SOUTH UNIVERSITY

CSE 311L (Database Management System Lab)

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JOIN, LEFT JOIN, RIGHT JOIN, FULL OUTER JOIN

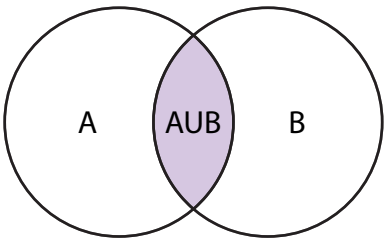
Syntax : **SELECT** COLUMN_NAME_1, COLUMN_NAME_2
FROM TABLE_NAME1 **JOIN** TABLE_NAME2
ON (ANY CONDITION)

Table A

ID	NAME	CGPA
1710000	ABC	3.50
1810003	JKL	3.80
1720001	DEF	3.60
1730002	GHI	3.70

Table B

NAME	ADDRESS	PHONE
ABC	Baridhara	5678
JKL	Rampura	9876
MNO	Bashundhara	1234
PQR	Khilgaon	1023



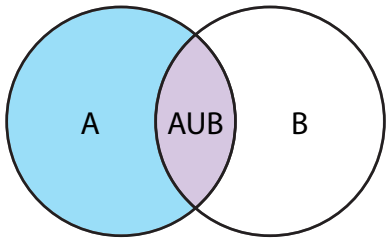
INNER JOIN/JOIN

```
SELECT *
FROM a JOIN b
ON a.Name=b.Name
```

TABLE-A TABLE-B

ID	NAME	CGPA	NAME	ADDRESS	PHONE
1710000	ABC	3.50	ABC	Baridhara	5678
1810003	JKL	3.80	JKL	Rampura	9876

We are "INNER JOIN"-ing the tables based on "Name" column. So the records with the "names" that are common (AUB in the venn diagram) in both tables are showing.



LEFT JOIN/LEFT OUTER JOIN

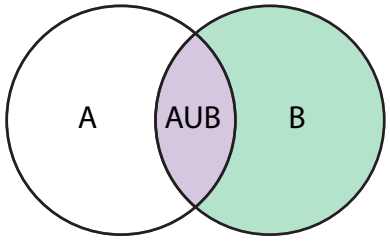
```
SELECT *
FROM a LEFT JOIN b
ON a.Name=b.Name
```

TABLE-A TABLE-B

ID	NAME	CGPA	NAME	ADDRESS	PHONE
1710000	ABC	3.50	ABC	Baridhara	5678
1810003	JKL	3.80	JKL	Rampura	9876
1720001	DEF	3.60	NULL	NULL	NULL
1730002	GHI	3.70	NULL	NULL	NULL

We are "LEFT JOIN"-ing TABLE-A with TABLE-B based on "Name" column.

1. All (we are using SELECT *) the records from TABLE-A (A) are showing.
2. The records with the "names" that are common (AUB) in both tables are showing. (marked in PURPLE)
3. If any record is not found based on the condition then the cells are filled with NULL. (marked in BLUE)



RIGHT JOIN/RIGHT OUTER JOIN

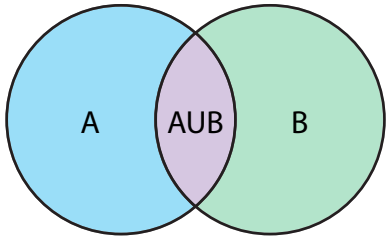
```
SELECT *
FROM a RIGHT JOIN b
ON a.Name=b.Name
```

TABLE-A TABLE-B

ID	NAME	CGPA	NAME	ADDRESS	PHONE
1710000	ABC	3.50	ABC	Baridhara	5678
1810003	JKL	3.80	JKL	Rampura	9876
NULL	NULL	NULL	MNO	Bashundhara	1234
NULL	NULL	NULL	PQR	Khilgaon	1023

We are "RIGHT JOIN"-ing TABLE-A with TABLE-B based on "Name" column.

1. All (we are using SELECT *) the records from TABLE-B (B) are showing.
2. The records with the "names" that are common (AUB) in both tables are showing. (marked in PURPLE)
3. If any record is not found based on the condition then the cells are filled with NULL. (marked in GREEN)



FULL OUTER JOIN

```
SELECT *
FROM a LEFT JOIN b
ON a.Name=b.Name
UNION
SELECT *
FROM a RIGHT JOIN b
ON a.Name=b.Name
```

TABLE-A

ID	NAME	CGPA
1710000	ABC	3.50
1810003	JKL	3.80
1720001	DEF	3.60
1730002	GHI	3.70
NULL	NULL	NULL
NULL	NULL	NULL

TABLE-B

NAME	ADDRESS	PHONE
ABC	Baridhara	5678
JKL	Rampura	9876
NULL	NULL	NULL
NULL	NULL	NULL
MNO	Bashundhara	1234
PQR	Khilgaon	1023

There is no direct way to do FULL OUTER JOIN IN MySQL. But there is a workaround. To get the result we will UNION the output of the LEFT JOIN and RIGHT JOIN of two tables.

1. All (we are using SELECT *) the records from TABLE-A (A) and TABLE-B (B) are showing.
2. The records with the "names" that are common (AUB) in both tables are showing. (marked in PURPLE)
3. If any record is not found based on the condition then the cells are filled with NULL.
4. There exists no value in TABLE-B for name "DEF" and "GHI". (marked in BLUE)
5. There exists no value in TABLE-A for name "MNO" and "PQR". (marked in GREEN)