JOINS - II

Agenda:

- Compound Join   - Joining Multiple Tables
- Inner vs Outer Join
- Cross Join

- USING
- Natural Join
- Implicit Join
- Join with WHERE vs ON
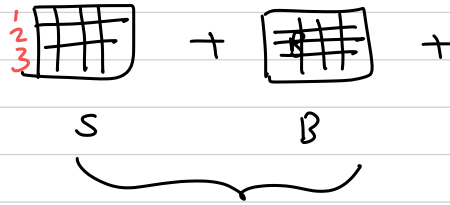- UNION

To Fix
[group by
  in assignments]

Compound Join

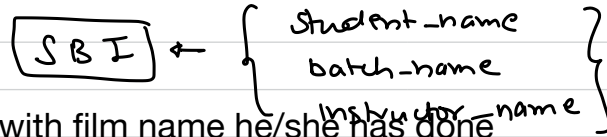any join which multiple conditions on different columns.

JOIN ON   cond1 on col1 , AND   cond2 on col2

```
SELECT *
FROM film f1
JOIN film f2
ON f2.release_year BETWEEN f1.release_year - 2 AND f1.release_year + 2
AND f2.rental_rate > f1.rental_rate;
```

JOINING MORE THAN 2 TABLES

Student_id = 3

Can't retrieve instructor directly

$5 + 3 + 2$

$8 + 2$

10

Join is needed.

S   B   I

SB + I

$\boxed{SBI}$ ←

Student_name
batch_name
Instructor_name

-- Show each actor name with film name he/she has done

```
SELECT CONCAT(a.first_name," ",a.last_name) AS "actorName", title
FROM film_actor fa
JOIN actor a
ON fa.actor_id = a.actor_id
JOIN film f
ON fa.film_id = f.film_id;
```

Types of Joins:

Inner Join
(Default)

JOIN
(done so far...)

Student   batch_id

1	A	5		5	B5
---	---	---		---	----
2	B	12		11	B6
3	C	null		12	B7

Batch

→ NO match

JOIN on batch_id

1	A	5	5	B5
2	B	12	12	B7

2 records.

Outer Join

Left Outer Join   Right Outer Join ↓

include all Right rows of Right Table.

1	A	5	5	B5
null	null	11	B6	
2	B	12	12	B7

1	A		5	5	B5
2	B	12	12	B7	
3	C	null	null	null	

includes all rows of Left Table

Full outer Join
↓
include all rows of both tables even if match is not found.

SELECT *
FROM Students S
FULL OUTER JOIN batches b
ON S.batch-id = b.batch-id;
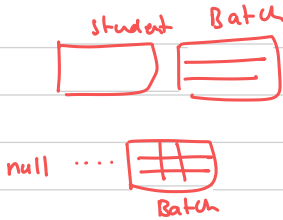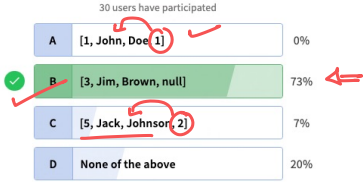
Union of
Left + Right
(without duplicate Rows)

1	A	5		5	B 5
2	B	12		12	B 7
3	C	null		null	null
				B 6	
null	null	null		11	B 6

Which of the following rows will NOT be a part of the result set in a LEFT JOIN of the students table on the batches table on batch_id?

24 users have participated

A	[1, John, Doe, 1]	0%
B	[3, Jim, Brown, null]	83%
C	[5, Jack, Johnson, 2]	4%
✅ D	None of the above	13%

student
null
1

If we perform a RIGHT JOIN of the students table on the batches table on batch_id, which row from the students table will NOT be included in the result set?

30 users have participated

A	[1, John, Doe, 1]	0%
B	[3, Jim, Brown, null]	73%
C	[5, Jack, Johnson, 2]	7%
D	None of the above	20%

(handwritten notes: student, Batch, null ···· Batch)

For an INNER JOIN of the students table on the batches table on batch_id, which of the following rows will NOT be included in the resulting set?
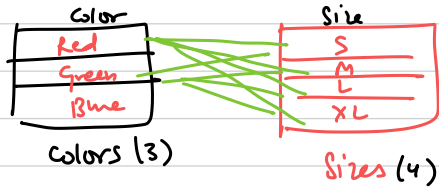
29 users have participated

A	[1, John, Doe, 1]	0%
B	[3, Jim, Brown, null]	97%
C	[5, Jack, Johnson, 2]	3%
D	None of the above	0%

End Quiz Now

Which row will NOT appear in the resulting set when we perform a FULL OUTER JOIN of the students table on the batches table on batch_id?

32 users have participated

A	[1, John, Doe, 1]	6%
B	[3, Jim, Brown, null]	6%
C	[5, Jack, Johnson, 2]	3%
D	None of the above	84%

(handwritten note: Can be part of output.)

End Quiz Now

CROSS-JOIN

→ join without a condition.

→ generate all possible combinations

Color

| Red |
| Green |
| Blue |

Colors (3)

Size

| S |
| M |
| L |
| XL |

Sizes (4)

R—S
R—M
R—L
R—XL
G—S
G—M
G—L
G—XL
B—S
B—M
B—L
B—XL

all combination

SELECT *
FROM colors
JOIN sizes,

m * n → Rows.

Natural Join

A	B	X	Y	Z

Table T1

G	H	X	Z	I

Table T2
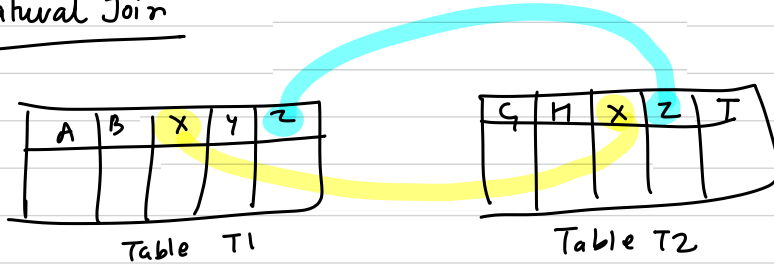
oh all colm which are same

JOIN ON T1.X = T2.X AND T1.Z = T2.Z

SECZECT X
FROM T1
NATURAL JOIN T2 ,

automatically pick
all cols
which are
having
same
name.

UNION

Student
sid … email

Instructor
idd   link   email

TA
na ——— email

Happy Holi email

name	email
S	=
I	=
TA	≡

all
users
of
Scaler