SQL - Views and window functions

Agenda
- Views
  - Motivation
  - Syntax
  - Updatable views
  - Materialised views
- Window functions
  - Motivation
  - Syntax
  - Different functions

Views

→ Get all the instructors & the number
   of students they teach

Joins - ?

FROM   → teaches

        instructors i   Join batches
                         ON i.id = b.ins_id
                         Join students s
                         on b.id = s.bid

GROUP BY i.id

student	batch	instrud
→ ①	A	✕
→ ②	A	✕
⌐ ③	A	✕

✕	b

PII

① Complicated query
② Seperate repository
③ Security

View

→ Virtual table

View | Table

SELECT*
FROM

Select * FROM students

Select first_name, last_name, ...

CREATE VIEW Simple_students

Encapsulation

Vieu

Ql → Vieu

Select * From 'vieu' phone

- Extra space

Ql

Views

→ Encapsulate a query

→ Hides the complexity

→ Hiding columns

→ Backed by a query

→ Does not extra space

→ Runs the query every single time

Materialized View
  ↳ CREATES NEW TABLE

   → Table

Create → Compute → Store

    Select

MV

New

Origin

G

Select

Postgres

6:07 — 6:15

— 10:45   BREAK

Aggregating
— Functions

Group by

0	180
0	120
0	130
0	130

180

ID , AVG

⟶ Sub menu

Select (id), AVG (id)
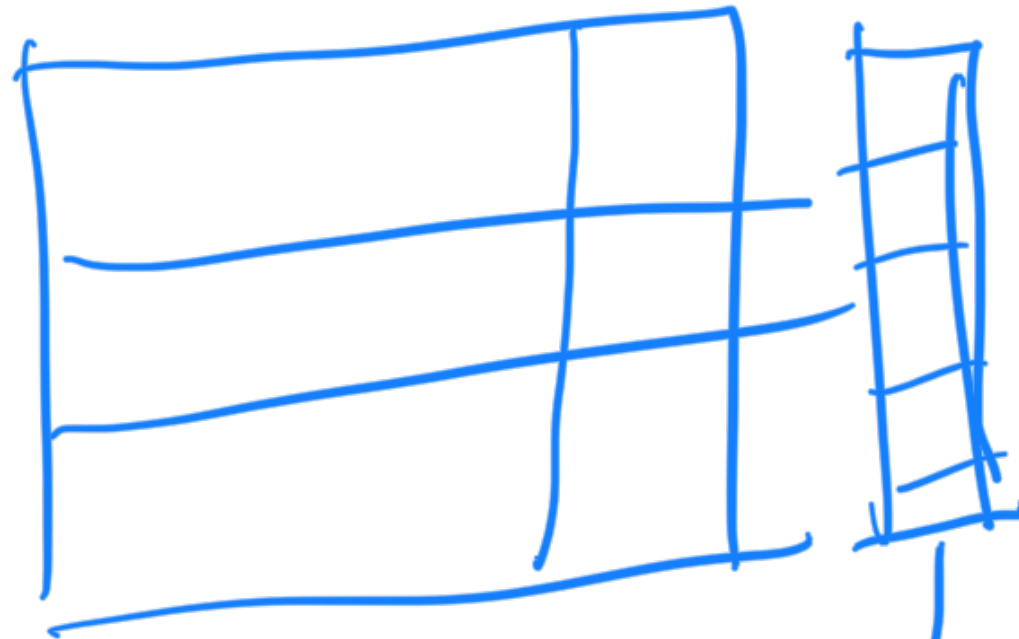
FROM   ;;

Window function

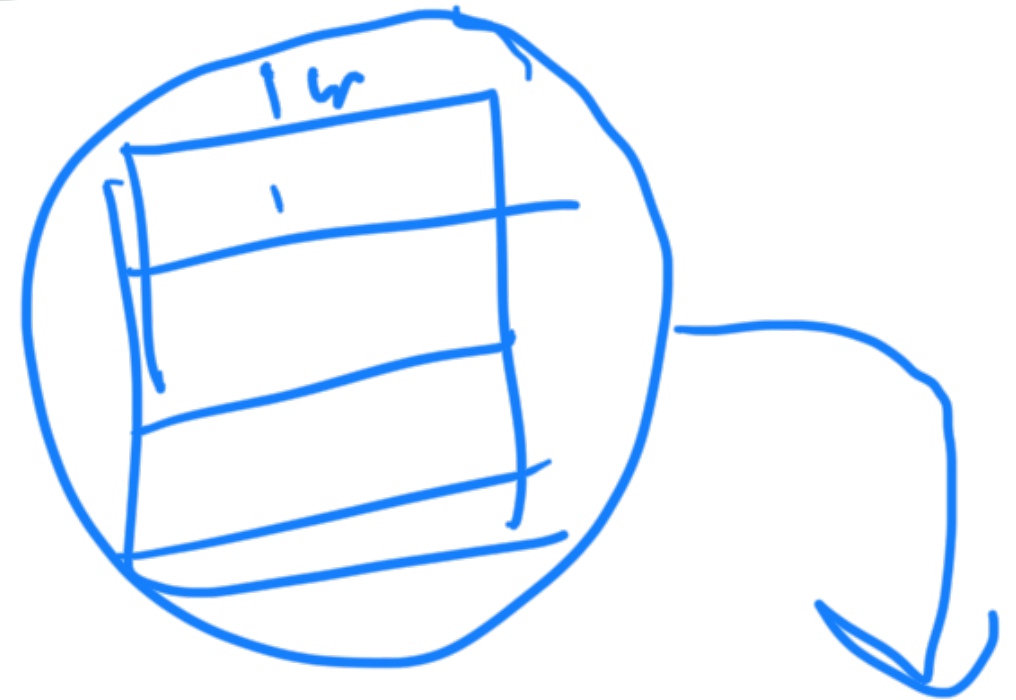   in

GROUP BY
    ⤷ Partitions

Single

OVER

- COUNT
- AVG
- MIN
- MAX
}