

SQL - Group By and built in functions

SELECT

MIN(IQ)

FROM

Students



100
120



Single value

Agenda

①

GROUP BY

- Having

- Chain / order of clauses

②

Built in functions

DRY

- Strings

Don't

- Numeric

repeat

...

— Date

yourself

③ Indexing → Transactions

Aggregation



single value

MIN, MAX, AUG, COUNT

— → the average ID of all batches

→ Get the average - a step

Select

AVG(IQ)

FROM

Students;

→ Get average IQ per batch

Batch_id	IQ
1	150
2	200

3

300

Students

SID	BID	IQ
1	1	260
2	3	100
3	1	150



1 175
3 100

Group by

→ iq

→ Group by iq



→ Get count of all students per batch



Select

batch_id

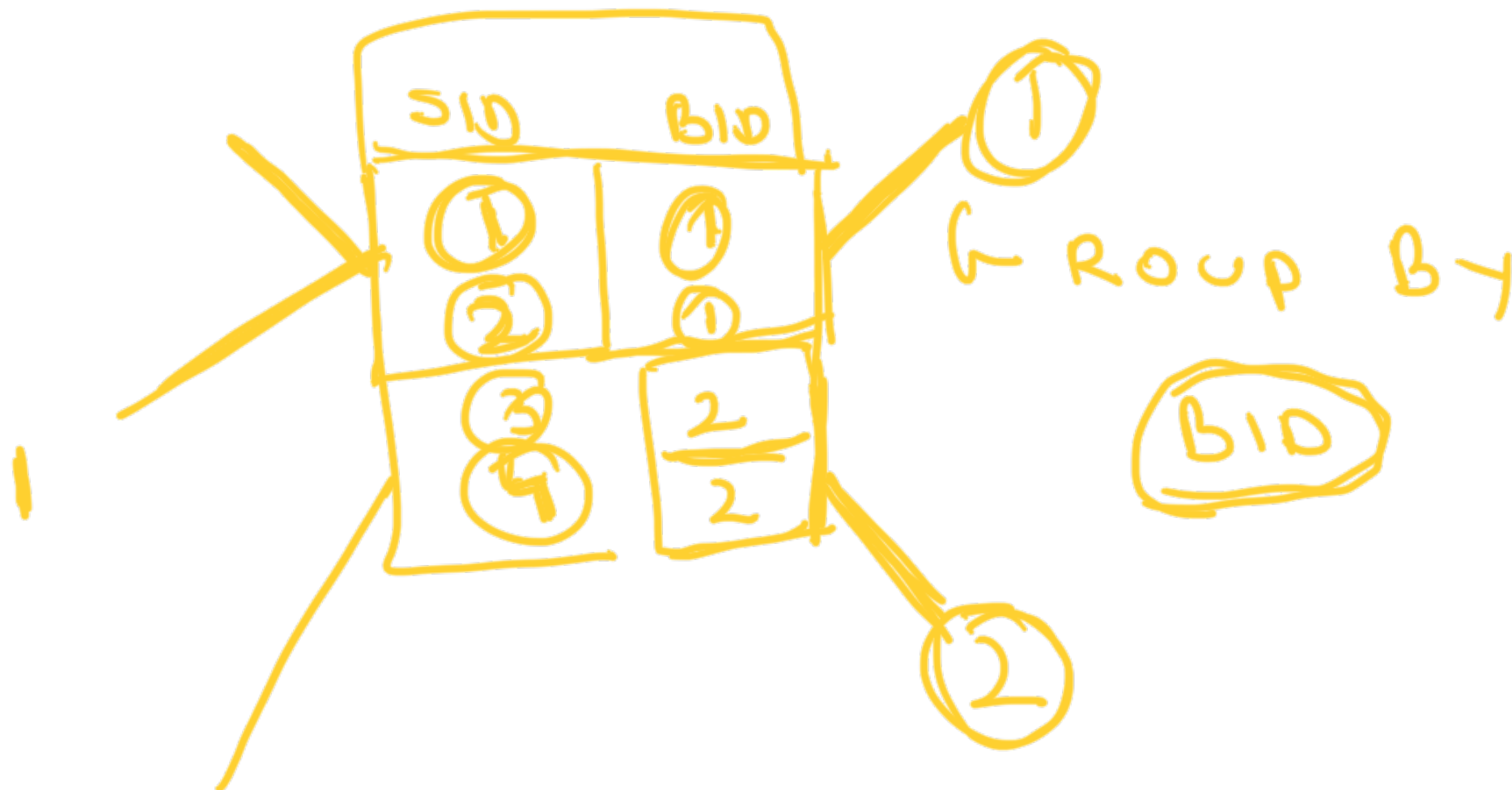
FROM students

(student_id, batch_id)

↳ group by batch_id, STUDENT_ID

Two types of fields

→ that are passed in group by



→ Aggregate functions

Select ✓
batch_id, AVG(IQ)
FROM
students

single
multiple values

GROUP BY
batch_id

SID | BID | IQ

1		1		100	}
2		1		200	
3		2		150 =	
4		3		175 =	

BID	<u>Average</u>
1	150
2	150
3	175

6:13 | 6:19
10:49

Built in functions

→ sort

→ reverse

→ substring

→ length

FILED



NoSQL vs RDBMS

- how to choose

joining

CROSS JOIN

+ = INNER

WHERE

ON, USING id

① Numeric

→ round

→ abs

② String

→ length

- substring

③ Date and time → DATE
TIME

④ Miscellaneous

- round (1.54) → 1.5
→ 1

- ROUND(1.54, 0) → precision
↑

→ 1.5

→ 1

↳ how many
decimals

CEIL, FLOOR, ROUND

CEIL(1.54) → 2

FLOOR(1.54) → 1

TRUNCATE

↳ Remove values / digits

ROUND (1.58, 1) = 1.6

TRUNCATE (1.58, 1) = 1.5



decimal

ABS, RAND → random



absolute

RAND ()

→ 3.14

ABS (-1) = 1

3.145 * 1000

1 - ROUND(RAND(), 1)
-

String

→ lower } case
→ upper }

LOWER("KATTAPA")

⇒ "kattapa" ↑

UPPER("kattapa")

length \Rightarrow LENGTH("ABC")
3

String \Rightarrow "ABC"
Sanitization
LEADING TRAILING
5 \Rightarrow 3

TRIM \rightarrow remove white spaces

\rightarrow LTRIM \rightarrow "ABC↓"

→ RTTRIM → "T ABC"
→ TRIM()

SUBSTR - SUBSTR (str, start, length)
Start - end

SUBSTR ("Namma Bengaluru",
①, ⑤)

LOCATE - The location of a string

Bengaluru in Namma Bengaluru
0 1 2 3 4 5 6 ↓

→ umma a Bengyalum

LOCATE() → 7

Date & time

- Get all batches that start on Monday
- Get all batches that have been running for 2 years

NOW() → Current date & time

CURDATE() → DATE

time

CUR TIME () →

TIME

2022 - 01 - 01 → DATENAME

YEAR

MONTH

~~DAY~~

Monday

↓

↓

↓

2022

01

01

Range

Date 1 - Date 2

→ DATE_ADD ('2022-01-01', INTERVAL
DATE_SUB 1 DAY)

DATE_DIFF (date1, date2) INTERVAL
1 HOUR