Agenda

a. Aggregation Functions
b. Group By
c. Use of having clause

1) Aggregation functions

(a) Count (b) Avg (c) Sum

(d) Min (e) Max (f) Median

(a) Count

1) Count(*) = 7
2) Count('Akash') = 7
3) Count(10) = 7
4) Count(customer_bought) = 6
   ignoring null
5) Count(cid) = 7
6) Count(distinct CN) = 6
   = null
7) Count(distinct qty) = 1+1+1+1 = 4

Amazon

	cid	CN	CB	QU
10	1	A	iph	1
12	2	B	iph	1
12	3	C	iph	1
12	4	D	iPad	2
10	5	E	null	0
10	6	F	Jeans	4
10	7	G	Bottles	2

6) Count(distinct CB) = null
   1+1+1+1 = 4

→ Does Count take Condition expression as argument ?

Ans. Count (C0 = 1) = 7

Count (C0 = 1 and C1 = 10) ↳ error

(2) Sum :- Sum up the values.

			qty
1	A	iph	2
2	B	iPh	3
3	C	iPh	1
4	D	iPad	4
5	E	Jeans	5
6	F	Bottles	4

2+3+1+4+5+4

→ Count (qty) = 6

→ Sum (qty) = 19

→ Sum (qty = 2) OR Count (qty = 2) = 6

(T) (F)

⇒ Count (1)

Sum (Cnt = 2)

⇒ 2

Sum (Cnt = 44)

⇒ 0

Sum (1)

⇒

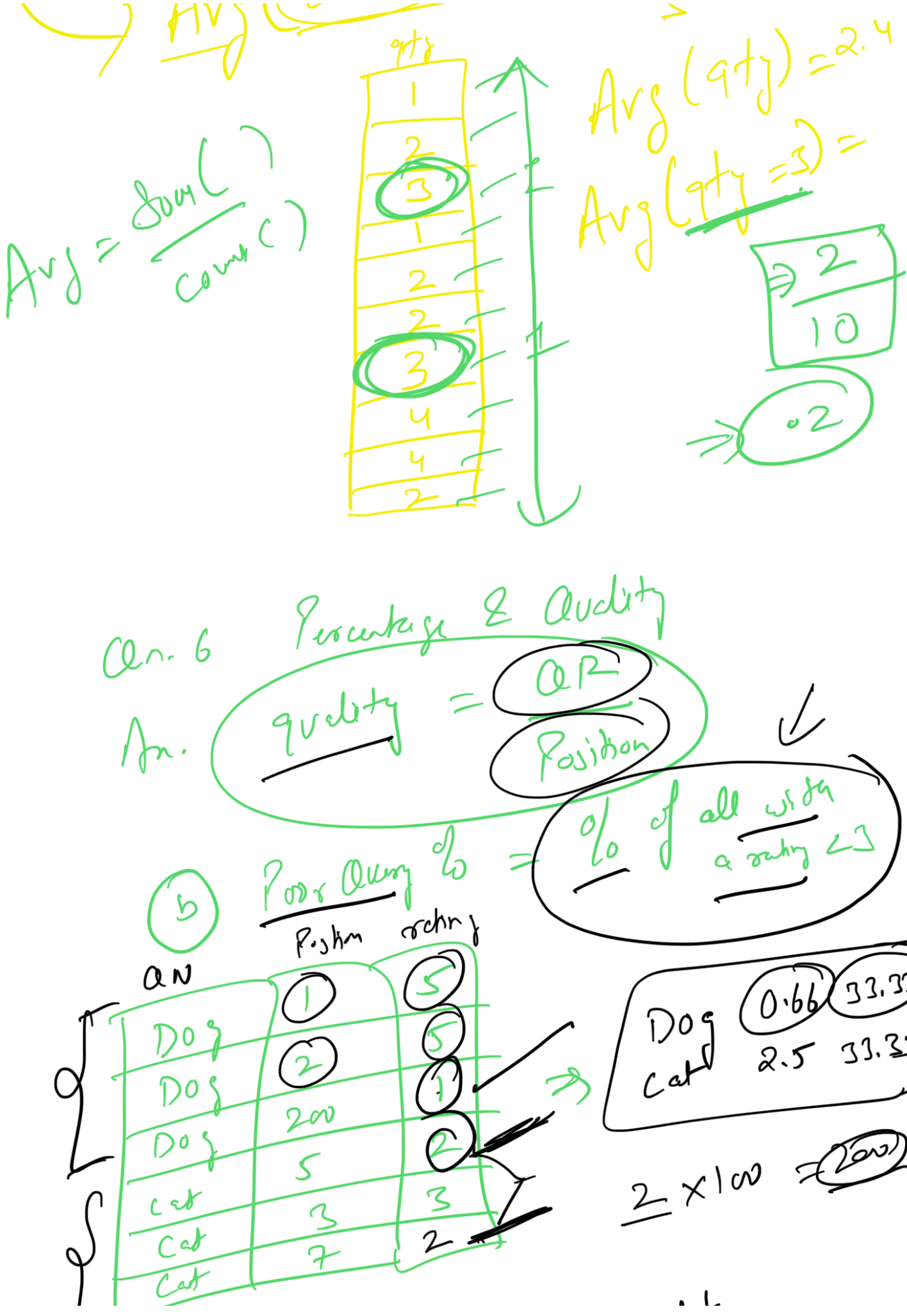
Sum (1) ⇒ 1 = True
0 = False

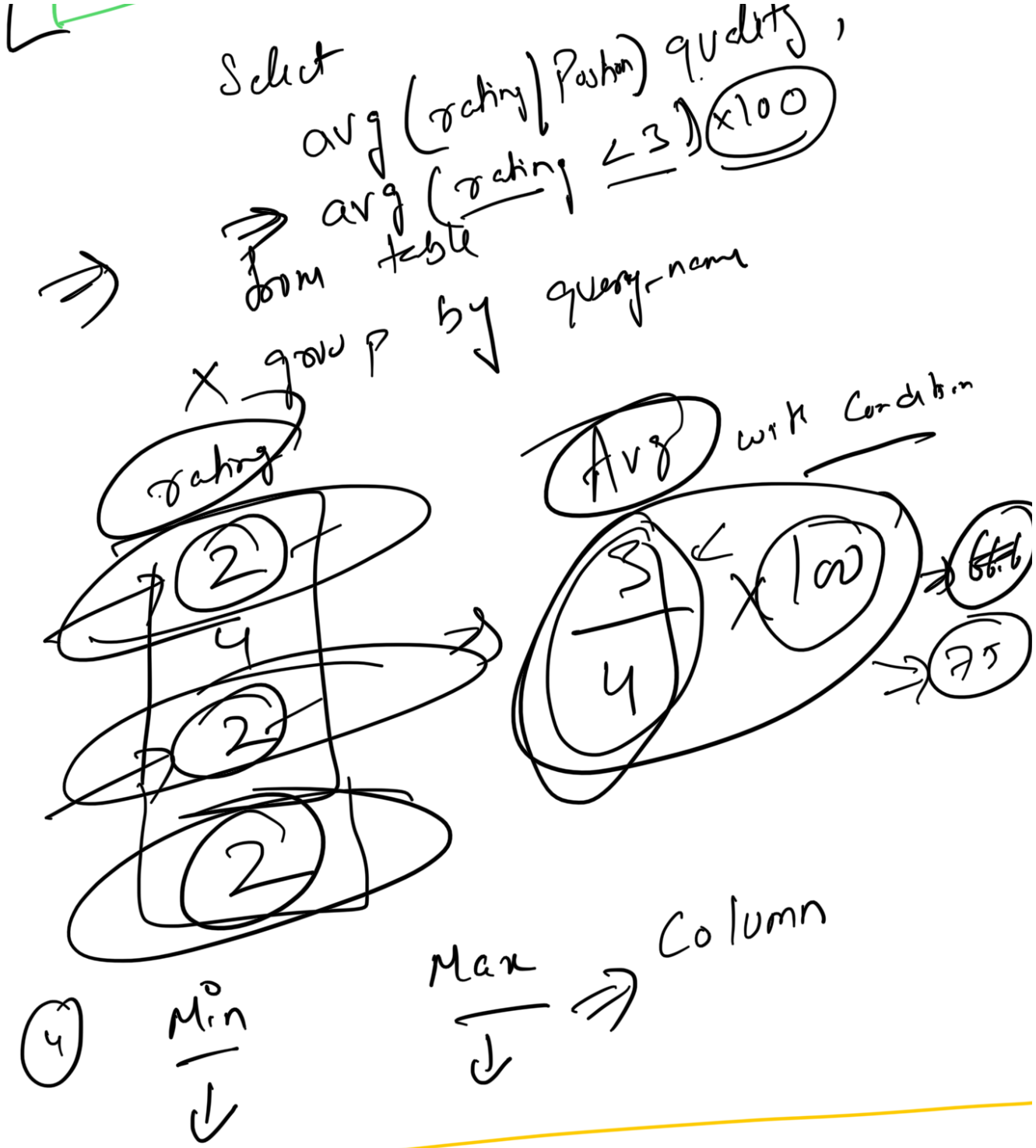
(3) Avg ⇒ Sum of qty / no of qty

Cnt
(1) 2 3 4 5

⇒ 15/5 = (3)

Avg (Cnt = 1) = (T) (1) ⇒ 0.2


Avg = Sum( ) / Count( )
qty
1
2
3
1
2
2
3
4
4
2
Avg (qty) = 2.4
Avg (qty = 3) =
2
10
o2
Qn. 6 Percentage & Quality
Ans. quality = QR / Position
% of all with a rating < 3
(b) Poor Quality %
QN
Dog
Dog
Dog
Cat
Cat
Cat
Position
1
2
200
5
3
7
rating
5
5
1
2
3
2
Dog 0.66 33.33
Cat 2.5 33.33
2 x 100 = 200



Group By

Execution Cycle

FROM

→ WHERE

→ GROUP BY

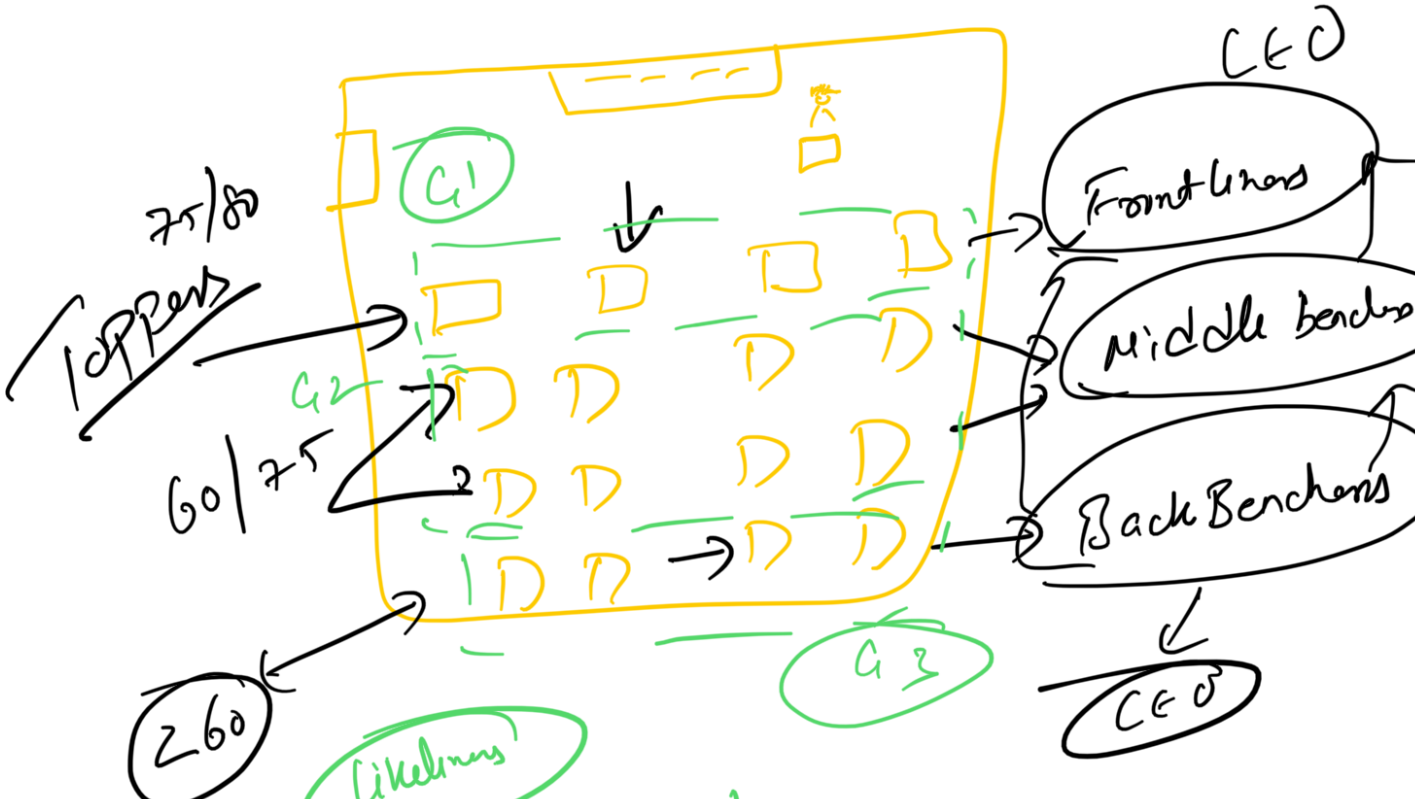
→ Aggregation

Select

order by

Syntax :-

```
Select
Fooom
where
Group by
Having
order by
```



employee

		Salary	Dept	DOJ	
1	A	1000	IT	2005	G1
2	B	2000	IT	2009	
3	C	3000	IT	2020	
4	D	2000	HR	2021	G2
5	E	2500	HR	2022	
6	F	1500	AD	2023	G3
7	G	2500	AD	2022	

(1) Get the employee having highest salary?

→ Select max(salary) from employee;

(2) Get the highest salary per department wise?

→ Select max(Salary)

From employee

Group by dept ;

Sel dept;

id	name		
		IT	G1

1	A	1000	
2	B	2000	IT
3	C	2000	IT

Select max(sclary), distinct fnam ⇒ 2000 | IT

From emp

Group by dept-id, fnam ⇒ B | C

AND

↳ 2×3 = 6

↳ 3×2 = 6

Select expression, fnam is not aggregate or grouped

eid	FN	Sal	Dept
1	C	1000	II
2	B	2000	II
3	C	3000	II

G1

(1) Select max(sclary)
from
Group by Dept ;
= 3000

(2) Name, max(sclary), dept wise

⇒ Select Max(sclary) new
from —
Group by dept ;

Group by

① → whatever is in Group by, you can put that in Select clause.

② → If in Select clause, you have colums which are unique then they should go to Group by;

Pid	Vid	md	Cid	qty	Cost
4	1	03/07	1	1	10
5	2	03/07	1	1	11
6	3	04/07	1	1	12
7	1	05/07	1	1	13
4	3	03/07	2	1	14
5	4	04/07	2	1	15

Qn. Count the no. of Purchases made per market date for each Customer.

Ans. Select Count(*) as no. of Purchases, Cid, md

From CP

Group by Cid, md

03/07	1	2
04/07	1	1
05/07	1	1
03/07	2	1

Doubt clearing session

Sudhakar :-