

→ OLTP
↓
Transaction (large)

↳ Select *

From table (1)
Where city = 'Pune'

Table Scan →

Optimize

✓ GB + Join is better than

Join + GB

2)

✓ Select *,

select column ✓

3)

windows function vs self

✓

<u>id</u>	<u>a</u>	<u>b</u>
1	—	Ag
2	Au	Be
3	Al	Br
4	Ar	Br
Node 4 ✓	- 11 -	- 11 -

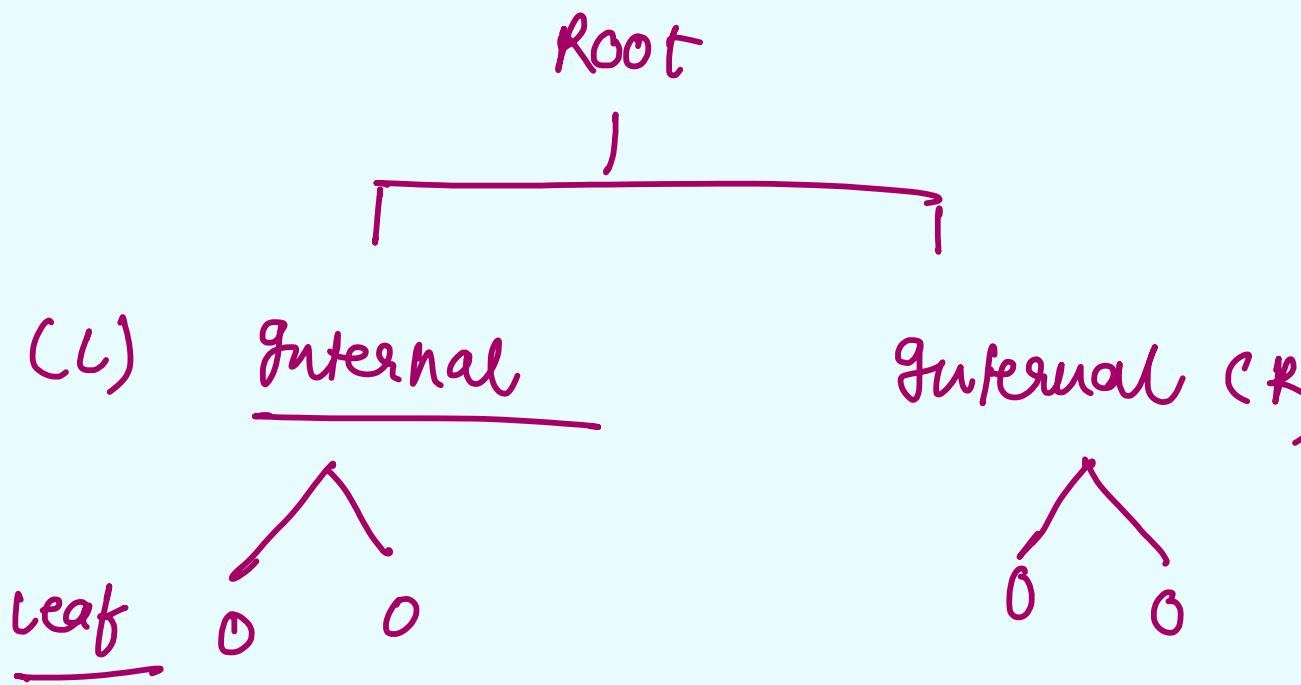
BOOK

→

Chapter • 17

Index Page

MySQL \rightarrow B+ Tree Index



- Root \rightarrow entry point

(No data)

Key \rightarrow 1°4 \rightarrow id -

internal,

Select *

from orders

where id = 4



Range

where id between :

left 2 → left 3 - left 4 =
→

library

→ Root (A to Z)

internal

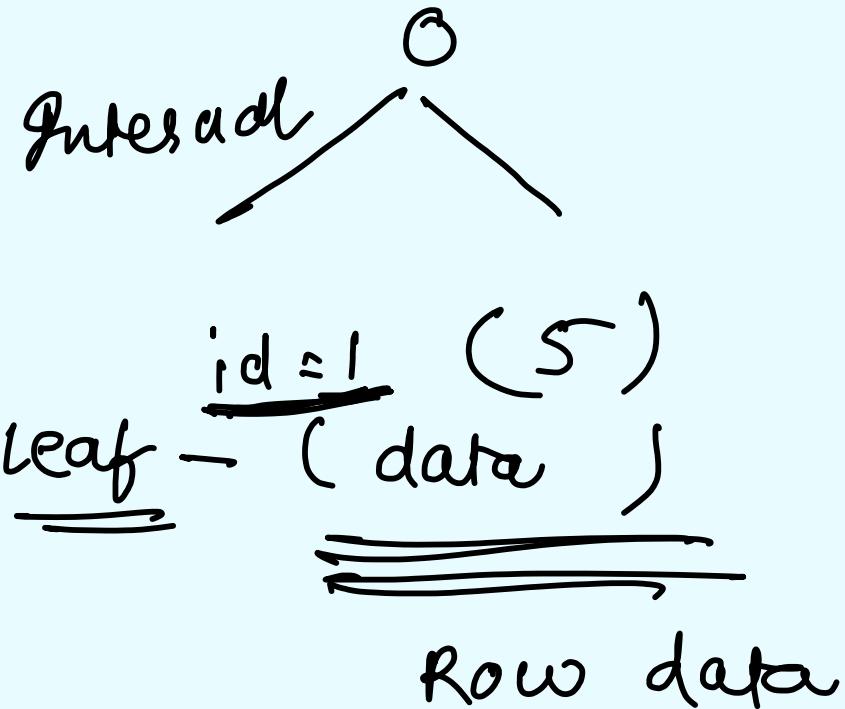


✓ A - D

E - H

DA
T - T

cluster index



now gr

intercal

leaf id :

Poi

C

All rows

1. Leaf contain

2. steps (look
up)

1 ✓

3.

(Primary)

Apply indexing on Multip

Yes ?

{ select *

from order

where cust-id = 101

and order-date \geq ('

→ Create index id-cust on

order (cust-id, order-dai

New Stock

eggs

→ S16 in table (10 gb)
 index (30 gb)

Target → ecom m
↓
Brazil)

Place order

Invoice

orders

~

Order id:

Cust - id

status:

Time:

order-item

←

order-item-id	Product	Price

Customers

cust_id | zip | city | state

Product

prod_id | category | name | pu

Payment

order | Payment | No of inst

Reviews

order_id | Review | score | co

Seller

→ Trans

OLTP → ETL → Data
(RDBMS)

(MySQL,
Oracle)

Indexes

(B+ Tree)



(Primary keys) → (id : —)

→ fast data Retrieval

O2TP (Txs) ✓

Query → few rows

→ quick result (low
+ latency)

→ Concurrency

→ B - Tree index

Select sum(sales)

from orders (24cs)

{ where region = 'west' }

Bt Tree !

S category = 'Home'

(BITMAP)

→ Oracle

→ Customer + Order → Analyse
gender

Row id	Gender	order-amt	Re
1	M	100	X
2	f	200	X
3	M	400	X
4	M	700	X
5	f	300	X



(Row no)

Select count(*)

From orders

Where gender = 'Male'

And Region = 'y'

✓	M	1	0	1	1	0
	F					
	R-y	0	0	0	1	1
<hr/>						
		0	0	0	1	0
				<u> </u>	<u> </u>	C Resu
					✓	

Row ~ 4

Row no	1	2	3	4
Male	1	0	0	0

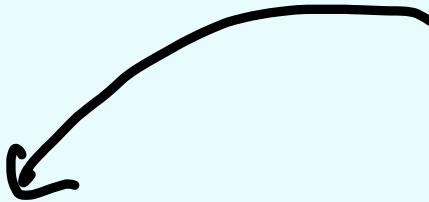
1011
1 3 4

OLAP

Index

B+

OLTP



OLAP

(Bit m)

unique

Agg

Red : -10010 1

Blue : 011010

Rq

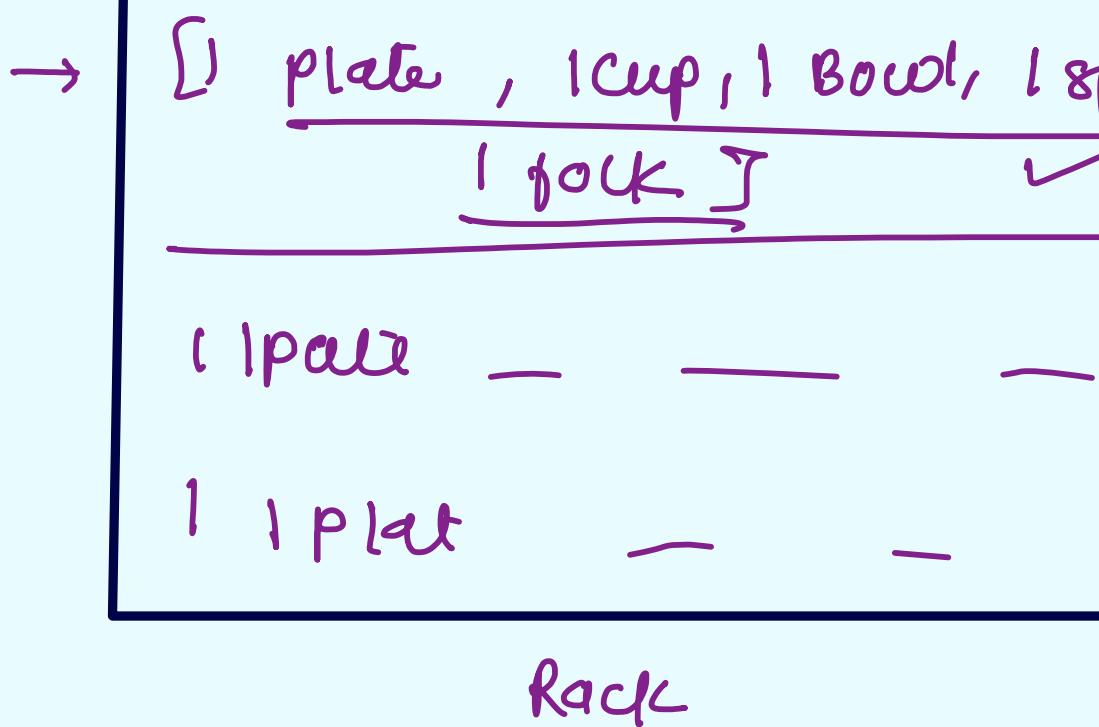
small : 101000

How we store data → How
to R

Rows

or

columns



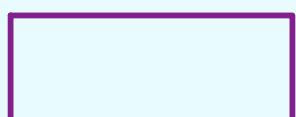
Column

5 item → Plate , cup , Bowl

Plate

Cup

Bowl



→ I guest - 5 item

→ Count of all items

How many cups, Bowls

OLAP + Column

OLTP → Rows

Row oriented (OLTP)

Data org

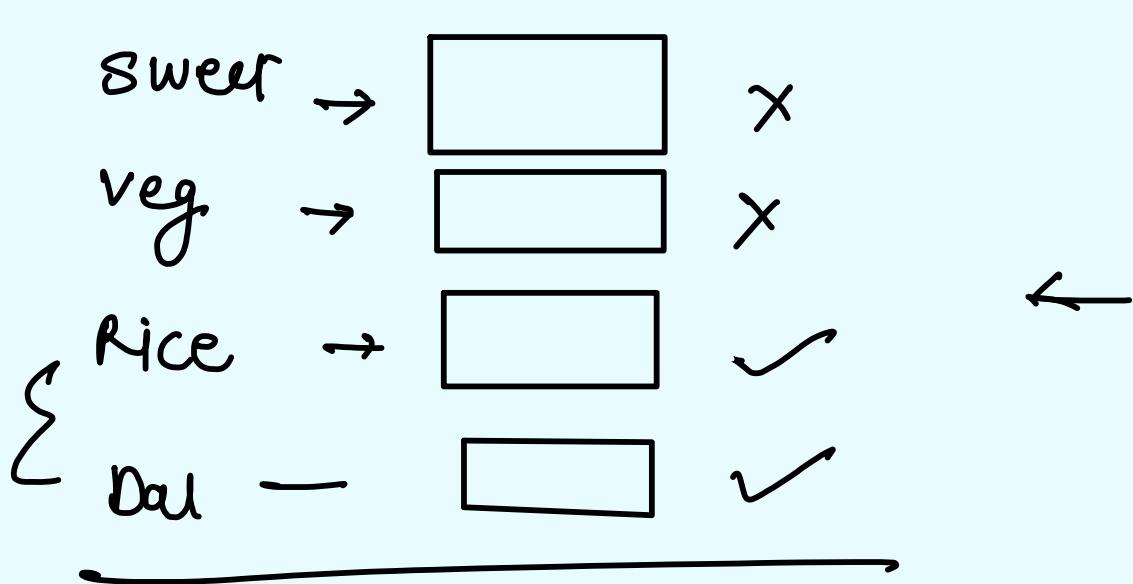
Row 1 : Data

Row 2 : Data

:

OLAP

OL : Data



(Partitions)

Storage

view

No data

(Code)

Materi
vi

Phy