



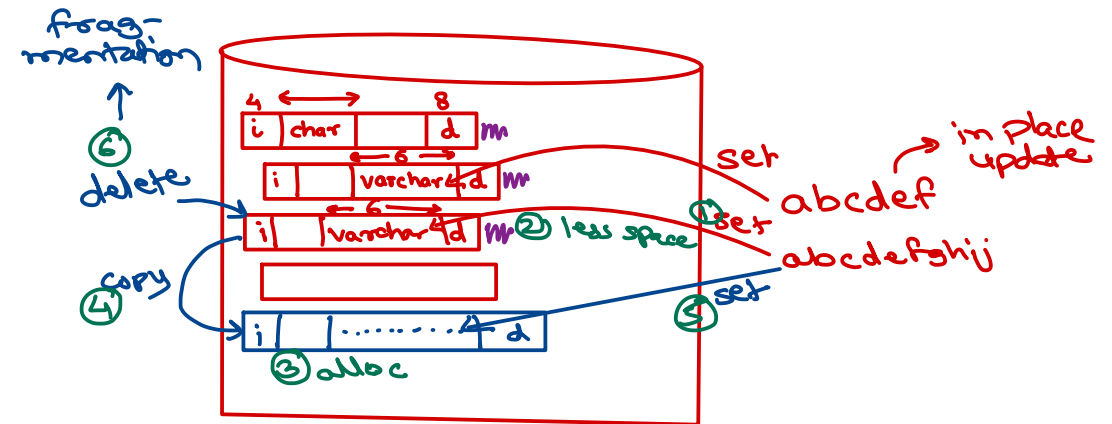
MySQL - RDBMS

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UPDATE – DML

- To change one or more rows in a table.
- Update row(s) single column.
 - UPDATE table SET c2=new-value WHERE c1=some-value;
- Update multiple columns.
 - UPDATE table SET c2=new-value, c3=new-value WHERE c1=some-value;
- Update all rows single column.
 - UPDATE table SET c2=new-value; ❌

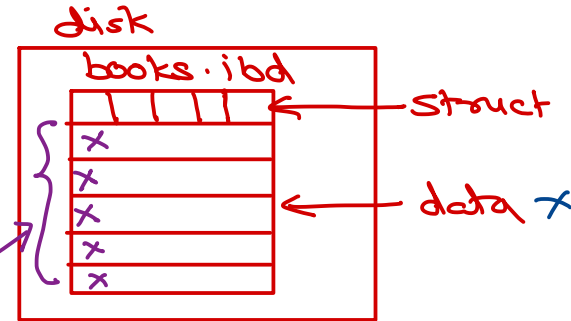


DELETE – ^{Can be rollbacked (tx)} DML vs TRUNCATE – ^{Can't be rollbacked} DDL vs DROP – DDL

→ Cannot delete columns.

• DELETE

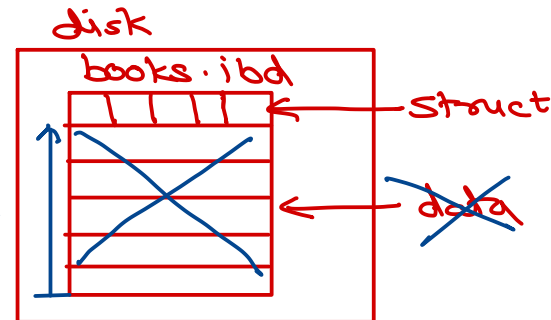
- To delete one or more rows in a table.
- Delete row(s)
 - DELETE FROM table WHERE c1=value;
- Delete all rows
 - DELETE FROM table;



• TRUNCATE

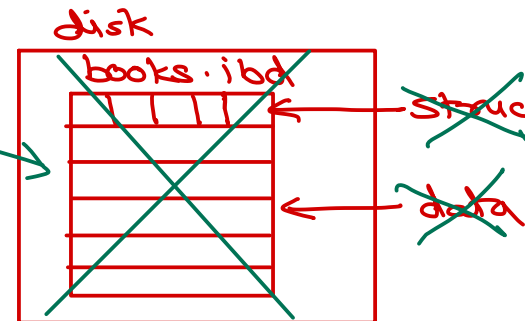
- Delete all rows.
 - TRUNCATE TABLE table;
- Truncate is faster than DELETE.

shrink/
truncate
file



• DROP

- Delete all rows as well as table structure.
 - DROP TABLE table;
 - DROP TABLE IF EXISTS table;
- Delete database/schema.
 - DROP DATABASE db;



Seeking HELP

- HELP is client command to seek help on commands/functions.
 - HELP SELECT;
 - HELP Functions;
 - HELP SIGN;



DUAL table

- A dummy/in-memory a table having single row & single column.
- It is used for arbitrary calculations, testing functions, etc.
 - SELECT 2 + 3 * 4 FROM DUAL;
 - SELECT NOW() FROM DUAL;
 - SELECT USER(), DATABASE() FROM DUAL;
- In MySQL, DUAL keyword is optional.
 - SELECT 2 + 3 * 4; ✗
 - SELECT NOW(); ✗
 - SELECT USER(), DATABASE(); ✗



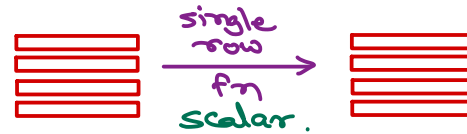
SQL functions

- RDBMS provides many built-in functions to process the data.

- These functions can be classified as:

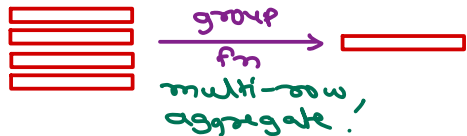
- Single row functions

- One row input produce one row output.
- e.g. ABS(), CONCAT(), IFNULL(), ...



- Multi-row or Group functions

- Values from multiple rows are aggregated to single value.
- e.g. SUM(), MIN(), MAX(), ...



- These functions can also be categorized based on data types or usage.

- ✓ • Numeric functions
- ✓ • String functions
- ✓ • Date and Time functions
- ✓ • Control flow functions
- ✓ • Information functions
- ✓ • Miscellaneous functions



Numeric & String functions

- ABS()
- POWER()
- ROUND(), FLOOR(), CEIL()
- ASCII(), CHAR()
- CONCAT()
- SUBSTRING()
- LOWER(), UPPER()
- TRIM(), LTRIM(), RTRIM()
- LPAD(), RPAD()
- REGEXP_LIKE()



Date-Time and Information functions

- VERSION()
- USER(), DATABASE()
- MySQL supports multiple date time related data types
 - DATE (3), TIME (3), DATETIME (5), TIMESTAMP (4), YEAR (1)
- SYSDATE(), NOW()
- DATE(), TIME()
- DAYOFMONTH(), MONTH(), YEAR(), HOUR(), MINUTE(), SECOND(), ...
- DATEDIFF(), DATE_ADD(), TIMEDIFF()
- MAKEDATE(), MAKETIME()



Control and NULL and List functions

- NULL is special value in RDBMS that represents absence of value in that column.
- NULL values do not work with relational operators and need to use special operators.
- Most of functions return NULL if NULL value is passed as one of its argument.
- ISNULL()
- IFNULL()
- NULLIF()
- COALESCE()

- GREATEST(), LEAST()

- IF(condition, true-value, false-value)





Thank you!

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