



MySQL RDBMS

Trainer: Mr. Nilesh Ghule



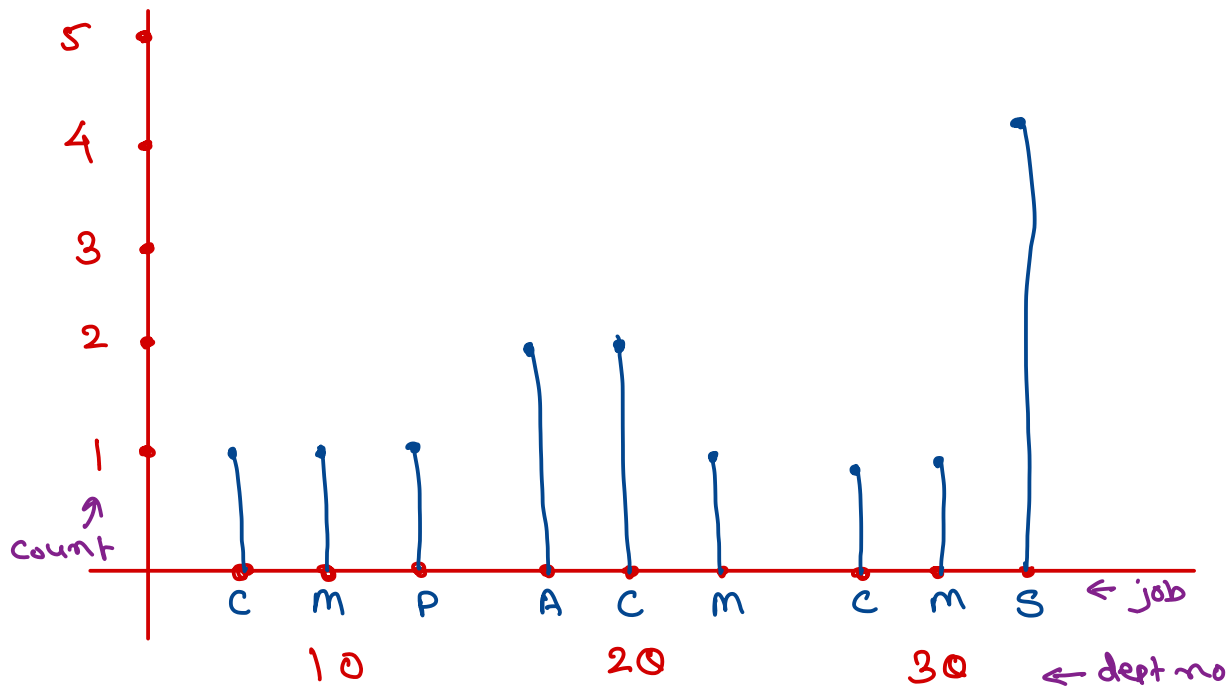
GROUP BY clause

- GROUP BY is used for analysis of data i.e. generating reports & charts.
- When GROUP BY single column, generated output can be used to plot 2-D chart.
When GROUP BY two column, generated output can be used to plot 3-D chart and so on.
- GROUP BY queries are also called as Multi-dimensional / Spatial queries.
- Syntactical Characteristics:
 - If a column is used for GROUP BY, then it may or may not be used in SELECT clause.
 - If a column is in SELECT, it must be in GROUP BY.
- When GROUP BY query is fired on database server, it does following:
 - ✓• Load data from server disk into server RAM.
 - ✓• Sort data on group by columns.
 - ✗• Group similar records by group columns.
 - ✓• Perform given aggregate ops on each column.
 - ✓• Send result to client.

→ what to show.

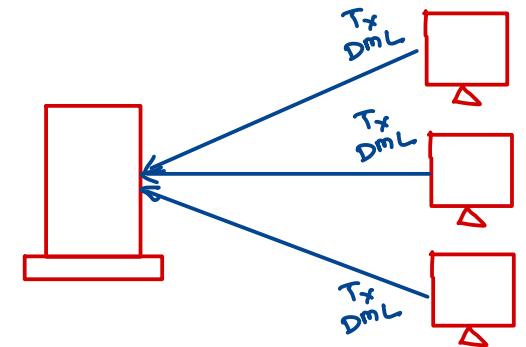
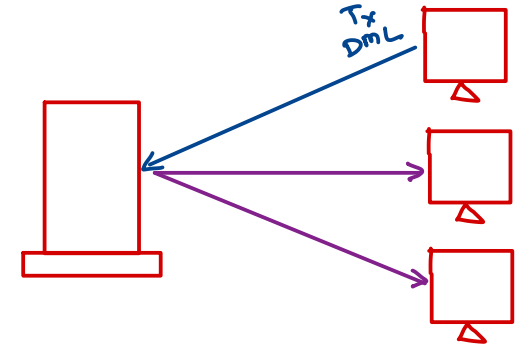


```
select deptno, job, count(empno)
from emp
group by deptno, job;
```



Transaction

- Transaction is set of DML queries executed as a single unit.
- Transaction examples
 - accounts table [id, type, balance]
 - UPDATE accounts SET balance=balance-1000 WHERE id = 1;
 - UPDATE accounts SET balance=balance+1000 WHERE id = 2;
- RDBMS transaction have ACID properties.
 - Atomicity
 - All queries are executed as a single unit. If any query is failed, other queries are discarded.
 - Consistency
 - When transaction is completed, all clients see the same data.
 - Isolation
 - Multiple transactions (by same or multiple clients) are processed concurrently.
 - Durable
 - When transaction is completed, all data is saved on disk.



Transaction

- Transaction management

- START TRANSACTION;
- ... *dml 1*
dml 2
dml 3
- COMMIT WORK; → *final save*

- START TRANSACTION;
- ... *dml 1;*
dml 2;
dml 3;
- ROLLBACK WORK; → *discard*

- In MySQL autocommit variable is by default 1. So each DML command is auto-committed into database.
 - SELECT @@autocommit;
- Changing autocommit to 0, will create new transaction immediately after current transaction is completed. This setting can be made permanent in config file.
 - SET autocommit=0;





Thank you!

Nilesh Ghule <nilesh@sunbeaminfo.com>

