Day 3

Datatypes, Create table, Insert, Null
Select *
Select col1, col2, ..., coln <— to view specific columns.

Selection :- When you select individual columns from the tables ; it is known as SELECTION

Projection :- Select specific rows : it known as projection

* When you perform Selection or projection, you are viewing a subset of the data

* select distinct job from emp;
  * Whenever you use distinct sorting takes place internally in the Server RAM
  * If you have LARGE number of rows in the table, this select statement will be Slow

select distinct job, ename from emp;
  * Distinct will work on combination of all the columns that are present in SELECT statement

select (distinct job), ename from emp;
selekt deptno, Job, ename, Sal, hiredate from emp;

* In DBMS data is stored inside a file
* Inside a file, rows are stored sequencially
* In DBMS; concept of row numbering

* In RDBMS, table is not a file; Every row is file
* In RDBMS, rows of table not sequencially store
* Rows of the table are scattered (fragmented all over the DB server HD.
* When you Insert the table, ~~the~~ mySQL finds the free space in the DB server HD, it will store the row there
* When you SELECT from a table, the searching is sequencial
* When you select from a table, the order of rows in the output depends on the row address
* sample database emp.

Ename	Job	SAL	HIREDATE
zavi	mAnager	15000	1983-01-12
Suraj	Clerk	18000	1984-02-15
Alfa	Analyst	12000	1987-03-20

→ select Ename, Job, SAL, HireDate from emp order by ename.

→ This command rewrite the data in order

→ Select Ename, job, SAL, HireDate from emp order by Ename desc, job desc;

ascending is bydefault
desc - is mindratory

* no upper limit on the number of columns in order by clause
*

* WHERE Clause.

Select deptno, job, ename, sal, hiredate from emp where deptno = 10
Order by ename;

* where clause has to specified before the order clause
* where is used to restrict the rows.

* Order by ename;
* Order by clause sorting takes place in server Ram
* Order by clause is the last clause in select statement

* Select ename, sal*12 "Annual salary" from emp order by 2
→ 2 is 2nd column

* Select * from emp
where ename > 'A' and ename < 'B'

* select * from emp
where ename > 'A' and ename < 'B';
// print all A start letters

* Select * from emp
where ename > 'A' and ename < 'C';
// print start with A, B

```
Select * from emp
where ename like 'A%';

Select

Select * from emp
where ename like '%A';

Select * from emp
Where ename like '%A%'    // A will be contains

select * from emp
where deptno = 10 or deptno = 20, or deptno = 30
// its print only deptno = 10, 20, 30

Same
Select * from emp
where deptno = any (10, 20, 30);

Select * from emp
where deptno in (10, 20, 30);
```

Any = logical operator / In = logical operator

* special operator (Like, Between

DDL → create, Drop
DML → Insert, update, delete
DQL → select.

```
Update emp
Set Sal = 10000
where city like 'A%';
```

Delete

* Delete from emp.
  where empno = 1; // delete first row

* Delete from emp // Delete the all rows.

* drop table emp ;

* drop table emp; it is only one table drop
* drop table emp, dept ; multiple table drop

* You can not have a where clause with Drop table because. Drop table is a DDL command

* Transaction processing

* commit will save all the DML changes since the last committed state.
  commit work ;
  or
  commit ;

* work is optional in my Sql

Insert -	update	10 Insert
Insert -	update	24 Update
Insert	Delete -	1 Delete
commit work;	Delete -	commit work;
	commit work;	

Commit;

* Work is optional in mysql
* When the user issues a commit, it is known as End of Transaction
* Commit will make the transaction permanent
* Rollback will undo all the DML changes since the last committed state.

Rollback;

* only the DML commands are affected by Rollback and commit
* Any DDL commands automatically comits, not only will it commit
* Any kind of power failure, network failure, system failure, pc reboot, window close your last uncommitted transaction is automatically rolled back
* Savepoint is a point within you work
* Savepoint is Similar to a Bookmark
* you can Rollback to a savepoint
* you cannot commit to a savepoint

rollback work to pqr;

or

rollback to pqr; // work is optional