* **DBMS : database management system**
* **RDBMS : relatinal dbms**

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* **SQL : structure query lang**

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* **DDL : data defination lang.**

🡪create : to create database or table

🡪alter : to make changes in created table

🡪drop : to remove table or db

🡪truncate : remove all data from table, table structure will remial as it is

* Database :

Show databases;

create database 1feb\_python;

use 1feb\_python;

drop database 1feb\_python;

* Table :- there are 2 types p constrains :

1. datatype\* :- int, double, varchar, date, clob, blob
2. key:- unique : it does not allow duplication; notnull : it does not allowe null value; primary : u + nn; foreign : relationship

create table student(id int primary key, name varchar(20), email varchar(50));

alter table student add column (phone int);

alter table student modify column phone varchar(30);

alter table student drop column phone;

alter table student rename to std;

truncate std;

drop table std;

create table emp(eid int primary key auto\_increment, name varchar(30), age int, dept varchar(20), salary double);

INSERT INTO emp (name, age, dept, salary) VALUES ('Rahul Sharma', 28, 'HR', 45000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Priya Mehta', 25, 'IT', 60000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Ankit Patel', 32, 'Finance', 52000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Sonal Desai', 27, 'Marketing', 48000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Vikram Joshi', 30, 'IT', 61000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Neha Shah', 24, 'HR', 43000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Ravi Trivedi', 29, 'IT', 59000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Komal Patel', 26, 'Finance', 51000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Jay Soni', 31, 'Marketing', 47000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Divya Shah', 28, 'IT', 62000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Karan Thakkar', 35, 'Admin', 40000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Sneha Chauhan', 27, 'HR', 46000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Hiren Vyas', 33, 'Finance', 54000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Disha Rana', 22, 'Marketing', 42000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Nikhil Dave', 26, 'IT', 63000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Palak Shah', 29, 'HR', 45000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Manav Modi', 34, 'Admin', 39000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Jigna Bhatt', 30, 'Finance', 50000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Yash Mehta', 28, 'Marketing', 47000.00);

INSERT INTO emp (name, age, dept, salary) VALUES ('Krupa Solanki', 23, 'IT', 61000.00);

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* **DML : data manipulation lang.**

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🡪Insert

🡪Update

🡪delete

insert into student values(0,'Sagar','sagar@gmail.com');

insert into student(name) values('Rudra');

insert into student(email) values("rudra@gmail.com");

update student set email="rd@gmail.com" where id=2;

delete from student where id=3;

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* **DQL : data query lang.**

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🡪select

select \* from emp;

select name, age from emp;

select distinct(dept) from emp;

select \* from emp where dept='HR';

select \* from emp where dept='HR' or dept='IT';

select \* from emp where dept='HR' and sal>55000;

select \* from emp where dept in('IT','HR','Marketing');

select \* from emp where dept not in('IT');

select \* from emp where name like 'J%';

select \* from emp where name like '%e';

select \* from emp where name like '%o%';

select \* from emp where name like '\_\_o%';

select \* from emp order by age;

select \* from emp order by age desc;

select \* from emp limit 5,5;

select sum(sal) as totalsal from emp;

select avg(sal) from emp;

select max(sal) from emp;

select min(sal) from emp;

select count(\*) from emp;

select count(distinct dept) as totaldept from emp;

#maxsal

select \* from emp where sal=(select max(sal) from emp);

select \* from emp order by sal desc limit 0,1;

select \* from emp where sal = (select max(sal) from emp where sal < (select max(sal) from emp));

select \* from emp order by sal desc limit 1,1;

select max(sal),dept from emp group by dept;

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* **DCL : data control lang.**

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🡪grant

🡪rewoke

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* **TCL : transaction control lang**

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🡪commit

🡪rollback

🡪savepoint

start transaction;

delete from emp where id=2;

savepoint a;

update emp set age=40 where id=3;

commit;

rollback to a;

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* **Foreign key :**

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create table author(aid int primary key auto\_increment,

aname varchar(20)

);

create table publication(pid int primary key auto\_increment,

pname varchar(20)

);

create table book(bid int primary key auto\_increment,

bname varchar(20),

aid int,

pid int,

foreign key(aid) references author(aid),

foreign key(pid) references publication(pid)

)

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* **JOINS :**

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**🡪**Inner Join

**🡪**Outer Join:- LEFT-REIGHT-FULL

select book.bname,author.aname from

book join author

on

book.aid=author.aid;

select b.bname,a.aname from

book b join author a

on

b.aid=a.aid;

select b.bname,a.aname from

book b left join author a

on

b.aid=a.aid;

select b.bname,a.aname from

book b right join author a

on

b.aid=a.aid;

select b.bname,a.aname from

book b left join author a

on

b.aid=a.aid

union

select b.bname,a.aname from

book b right join author a

on

b.aid=a.aid;

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* **View :**

create view <viewname> as <query>

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* **Stored peoducedure :**

CREATE DEFINER=`root`@`localhost` PROCEDURE `allemp`()

BEGIN

select \* from emp;

select \* from student;

END

call allemp()

CREATE DEFINER=`root`@`localhost` PROCEDURE `empbyid`(IN eid int)

BEGIN

select \* from emp where id=eid;

END

call empbyid(5);

CREATE DEFINER=`root`@`localhost` PROCEDURE `agebyid`(IN eid int,OUT eage int)

BEGIN

select age into eage from emp where id=eid;

END

call agebyid(5,@age);

select @age as age;

CREATE DEFINER=`root`@`localhost` PROCEDURE `agebyid1`(inout a int)

BEGIN

select age into a from emp where id=a;

END

set @a = 7;

call agebyid1(@a);

select @a;

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* **Trigger :**

DELIMITER //

CREATE TRIGGER emplog

BEFORE DELETE

ON emp FOR EACH ROW

BEGIN

insert into emplog(eid,name,email,sal) values(old.id,old.name,old.email,old.sal);

END //