**Mysql-day4**

**Database:** it is application which stores the collection of data in form of files.

Each database has one or more distinct API’s for creating, managing, searching and replicating the data

**File:** this unchanged/cannot updated/cannot organize the data in the file.

**Excel:**  it is security storage purpose.

**DBMS:** database management system.

It store databases in the form of tables.

**Challenges of DBMS:**

1. Relations is not possible for accessing the code.

**RDBMS:** Relational database management system.

* We can store the data in the form of tables and can map them from location.
* Operations will be very effective.

**Database has two types:**

1. RDMS.

2. Non-RDMS: it store the data in the form of key-values.

**Mysql database:**

To create a project we need:

1. Front end : to view the data.
2. Backend- Interaction between the data and programing.
3. Database- store: provide space to store the application.

**Database components:** there are two types.

1. Client.
2. Server

**Mysql uses two types of commends:**

1.DDL commend: data definition language.

2.DML commend: data manipulating language.

**1. DDL commend:**

1. Create: to create a particular database table.

2. Alter: means update, delete,add column names is called alter.

3. Drop: delete records from table and table structure.

4. Truncate: remove the table records from table at time.

5. Rename: we are rename table or records in the existing database.

**2. DML commend:**

1. insert : insert data into a table.

2. update : update the existing data within a table.

3. delete : delete the records from table and row by row deleted.

**Data types:**

1. Char(size): a fix length string characters are allowed.
2. Varchar (size): a variable string lcluength.
3. Binary (size): equal to char; default it will be 1.
4. Text(size): it hold string with max length of 65,535,bytes.
5. TINYTEXT: it hold a string with a max length of 255.

**Clause and operator**

1. **Where clause:** it is manly use for filtering purpose.

**Syntax:** select col name from table name where condition.

1. **AND,OR,NOT:**

**AND-** if we wanted to display a records if all the condition are satisfied by and operator.

**Syntax:** select col name col2 name from table name where cod1 and cod2 and cod3.

**OR**- it any one condition is satisfied then the result will be true.

**NOT**- displays the record when condition fails.

**Syntax:** select col1,col2 from table name where not condition.

1. **Order by:** it will sorting the records to ascending or descending order only.

By default ascending order only.

**Syntax:** select col name from table name order by col1,col2.

1. **Insert into:** it is use for inserting the new record in to already existing table.

**Syntax:** insert into table name(col1,col2,col3) values(n1,n2,n3).

1. **Select clause:** It is use to display to obtain data from particular table.

**Syntax:** select \* from table name.

1. **Update:** modify and change the existing values.

**Syntax:** Update table name set col1=val1 col2=val2 where condition.

1. **Delete:** Deletes the existing record from the table.

**Syntax:** delete from table name where condition.

1. **Limit:** Used to specify the number of records to return.

**Syntax:** select col1 from table name where condition limit number.

1. **Min:** it returns the minimum values of the selected col of a table.

**Syntax:** select min (col name) from table name where condition.

1. **Max:** It returns the maximum values of the selected col of a table.

**Syntax:** Select Max (col name) from table name where condition.

1. **Like:** it is use in where clause it is use to search for specific pattern in a column.

Syntax: select col1, col2, from table name where col1, like pattern.

%a--- finds names ending with ‘a’;

a%---- finds names starting with ‘a’.

-a%--- it finds names whose second letter is a.

a\_%---finds names whose second letters is a.

1. **In:** allow us to specify multiple values in where clause.

**Syntax:** select col name from table name where col name in (val1, val2);

**Ex:** select \* rom student where state in (‘Ap’, ’Bengulur’,’deli’);

1. **Between:** It selects the middle value from a range of values.

**Syntax:** select col name from table name between val1 and val2;

1. **Avg():** return the average value of a particular col.

**Syntax:** select avg(col name) from table name where condition.

1. **Count:** return the number of records which satisfies our condition.

**Syntax:** select count(col name) from table name where condition.

1. **Group by:** group the data present in the rows with same values.

**Syntax:** select col name from table name where condition group by col name order by col name.

**Mysql\_day5**  **03-12-2024**

17.**Joins:-**

Joins are used with select statement.

Used to retrieve the data from multiple table from same databases.

Fetching the records from different tables will be very easy.

There are 3 types of mysql joins.

1. Inner join (simple join).

2. Outer join.

It have different types.

Left outer join.

Right outer join.

3.Right join.

**1.Inner join (simple join):-** In order to return all the rows from multiple tables where the join condition is satisfied.

This is the most commonly used join in mysql.

**Syntax: select col from table inner join table 2 on table on table1 col1 table col1;**

**2.Outer left join:-** It will return all rows from the left hand side table and all the rows from right hand side table by satisfied.

**Syntax :- select cols from table left outer join table2 on table2 on table1 col\_table2 col;**

**3.Right join:-** Right outer join.

Return allows from the right hand table with right hand table rows on to the right table by satisfied the join condition.

**Syntax:- select cols from table 1 right join table col table2 col;**

4.Self join: the data/rows in the table are combined/ joined with the same data/ rows in the same table.

**Syntax: select col\_name from table1,table2 where condition;**

5.Cross join: It will return all the records from both the tables(table1 & table).

**Syntax: select col\_name from table1 cross join table2;**

**Joins**

1.select s.Sname,s.course,s.brach,s.Address,e.empId,e.Empname,e.Empsalary,e.location from student s **join** employee e on

s.Sno = e.empId;

2. select s.Sname,s.course,s.brach,s.Address,e.empId,e.Empname,e.Empsalary,e.location from student s **inner join** employee e on

s.Sno = e.empId;

3. select s.Sno,s.Sname, s.course, s.brach,s.Address,e.Empsalary,e.location from student s **left outer join**  employee e on

s.Sno = e.empId;

5. select s.course,s.brach,s.Address,e.empId,e.Empname,e.Empsalary,e.location from student s **right outer join** employee e on

s.Sno = e.empId;

6.select \* from student **cross join** employee;

**Self join**

7.select s.Sno,s.Sname ,e.Sname as manager, s. course,e.course as 'role' from

student s join student e on s.Sno=e.manager\_id;