SQL(Structured query language):- SQL is a domain-specific language used in programming and designed for managing data held in a relational database management system, or for stream processing in a relational data stream management system.

Standard language to communicate with database.

What is database: it is organized collection of tables.

Tables is collection of data

In table Data is organized in the form of rows and columns.

Adv is we can easily fetch or search the data from sql.

Functions in sql are : Fetch,delete,update,insert

Disadv:once we delete the data

In sql we perform CRUD operations.

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DDL Statements(Data Definition Language)**:-**

DDL statements are used to create and manage the structure of the database.

There are some commands in ddl.They are:

1. **Create:**create the database and table.
2. **Alter:**
   a) **Add** new column to existing table.
   b) To **modify the data** from existing table or to modify column datatype.
   c) **Change** the datatype.
   d) To **rename** the column name.

3.Drop: To Drop the column from existing table.

4.Truncate: To truncate the data from table.

DDL COMMANDS ARE:-

Create,alter,drop,truncate.

Data definition language (DDL) statements let you to perform these **tasks**:

1. Create, alter, and drop schema objects
2. Grant and revoke privileges and roles
3. Analyze information on a table, index, or cluster
4. Establish auditing options
5. Add comments to the data dictionary

DATATYPES are:Time,date,timestamp

CREATE TABLE airport_details(id int,passenger_name varchar(20),contact_no bigint,flight_no varchar(20),departure_date varchar(30),);

SELECT*FROM airport_details;

INSERT INTO airport_details(id,passenger_name,contact_no,flight_no,departure_date,take_off,created_at);

Disadvantage of sql:

- drop clears all data from table i.e all the table data will be lost permanently
- And truncate also
- So only use delete always.

Note:always use keywords in caps only

Sql is not case sensitive.

Syntax for creating database:

CREATE DATABASE database_name;

Or

Example: CREATE DATABASE aug_20;

CTRL+shift+enter

Create Table:

Syntax for creating table:

CREATE TABLE table_name(Column_name datatype,column_name2 dataype,column_name3 datatype);

I. Create and table are keywords.
II. We can take n no of columns in a table.
III. Comma is used to separate the column names.
IV. Varchar is variable character.
V. varchar(20) means it stores 20 characters.within braces is size.

SELECT:- command is used to fetch the data from table.

Select command is used only to read the data.

Select*from table_name;

*indicates all columns from table.

To fetch the data from only one column

Write only.

Syntax to fetch data from single column:

SELECT columnname from tablename;

Insert is used to insert data into the table.

SYNTAX:

INSERT INTO table_name

VALUES(tablevalue1,tablevalue2,tablevalue3); or

data1,data2,data3.

INSERT INTO

table_name(columnname1,columnname2)VALUES(columnnam

e1value,columnname2 value);

/*to fetch data from table use below command */

SELECT team_name,venue FROM ipl_teams;

Syntax:

SELECT table_name1,table_name2 FROM table_name;

SELECT COLNAME FROM TABLENAME;

To CHECK THE DESCRIPTION/TO DESCRIBE OF THE TABLE

DESC TABLE_NAME;*NOTE:Syntax for adding new column to the table*

ALTER TABLE_name ADD COLUMN column_name datatype;

[1]. When we use alter command is:when we want to add new column to the existing table.

Syntax to drop column from existing table

[1] ALTER TABLE table_name DROP COLUMN column_name;

Table level commands are alter,create,drop

- Syntax for renaming column:

ALTER TABLE table_name RENAME COLUMN old_column_name to new_column_name;90t543ewasdf g.P{

- Syntax for renaming the table3x

RENAME TABLE oldtablename to newtablename;

- Syntax for changing the datatype for existing column.

ALTER TABLE table_name MODIF0Y COLUMN column_name newdatatype;

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Where:is used to filter the data from the table based on the condition.

Syntax for where:

SELECT*FROM Table_name WHERE condition;

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DML(DATA MANIPULATION LANGUAGE)

- ARE USED TO MAINTAIN AND MANAGE THE DATA INTO THE TABLE.
- DML COMMANDS ARE **INSERT,UPDATE,DELETE,SELECT.**
- INSERT the data from the table.
- DELETE is used to delete data from table.
- UPDATE is used to update/modify the data from the table.
- SELECT is used to fetch the data from the table.

SYNTAX TO UPDATE

UPDATE table_name SET column_name='value' WHERE condition;

Update command is used to change value of the existing table

Where is used to update value to particular column.

Syntax for delete:-

DELETE FROM TABLENAME WHERE CONDITION;

It is used to delete the entire row of contents at once.

For ex:if we want to delete id=3 the this command deletes entire row of contents added in table added to id 3.

AND OPERATOR

RETURNS TRUE IF BOTH CONDITIONS ARE TRUE,ELSE RETURNS FALSE.

IF 1ST CONDITION IS FALSE IT DOESN'T CHECK FOR ANOTHER CONDITION.

Cond1	cond2	result
True	false	true
False	true	true
False	false	false
True	true	true

IN:to print selected column and row.

It is used to avoid xle use of OR operators

NOT operator:it is used to print exclude tables of IN operator.

BETWEEN Operator:It is used to print table within the range.

Order BY:it sorts ascending or descending

But by default it will sort in asceding order

Use desc for descending.

AGGREGATE FUNCTIONS :-are used to perform calculations on a column data.

Aggregate functions are only used for numeric data.

There are 5 aggregate functions

1.count:returns no of rows in a table or a column.

2.Sum: It will add all the data in the particular column.

***3.max*:**It returns the maximum value in the column.

***4.min*:**It returns the minimum value in the column.

***5.Avg*:**It will return the average value from column.

Avg=sum of values/no of rows.

LIKE:- Is use to perform the pattern matching and it is use to perform an any length.

% :- we use Use this ,It can match any String of any length

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Constraints:-Are used to limit the type of the data whenever inserting the data into the table.

Ex:-null data , duplicate data:-These constraints are specified the column while creating the table

1]Table and 2] column level

Two Five of constraints:-

3 column level constrains:-

1]Not Null Constraints:-Whenever u apply this ,that column will not accept not null values but it will accept duplicate values.

2]Unique:-this column should not accept any duplicate values but it will accept null values…

3]Check constraints:- is used to limit the range values (only numerics).

4]Primary Key:-table level constraint,

It will uniqukly identify the each row in a data table.

5]Foreign key:-References to primary key of parent,we cannot drop the primary key table bcz someone assceing the or refereeing to parent so we cannot delete.

Group_By:- The GROUP BY statement groups rows that have the same values into summary rows, like "find the number of customers in each country".
Is used to similar values into the single value.

Padding :- we can add any char to existing value.
L-Pad:- it will add values to Left side of the existing column.
R-Pad:-it will add values to right side of the existing column
lpad:
lpad(originalstring,15(length of the original string after adding)string,15,stringtobeadded);
'AAAX-workz'

```
SELECT LPAD('XWORKZ',10,'AAA');/*'AAAX-workz'*/
SELECT LPAD('XWORKZ',4,'AAA');/*xwork*/
SELECT RPAD('XWORKZ',10,'AAA');/*'AAAX-workz'*/
SELECT RPAD('XWORKZ',4,'AAA');/*xwork*/}
```

Joins:- Combines tables values from one or more tables based on the condtions of the joins.

1]Inner Join:-Returns the common values or similar values from both the table

2]Left Join:- return all the rows from the left table and matching records from the right table.

3]Right Join:- return all the rows from the right table and matching records from the left table.

3]Cross Join:- its will gives the Cartesian product of the both table.