information by storing, retrieving and managing data.

There are many databases available like mySQL, Sybase, oracle, mongoDB, informix post SQL, SQL server etc..

DBMS: DataBase Management System:

A DataBase Management System is a Software System that is designed to manage and organized data in a structured manner. It allows user to create modify and query a database. as well as manage the security and access controls for that database

What is SQL?

* SQL stands for structured Query Language.
* SQL lets you access and manipulate databases.
* SQL become a standard of the American national Standards Institude (ANSI) in 1986, and of the International Organization for Standardization (ISO) in 1987

What can SQL do?

* SQL can execute queries against a database.
* SQL can retrieve data from a database

* SQL can insert records in a data base.

* SQL can update records in a database.

* SQL can delete records from a database

* SQL can create new database

* SQL can create new tables in a database

* SQL can create stored procedures in a database

* SQL can creta views in a database

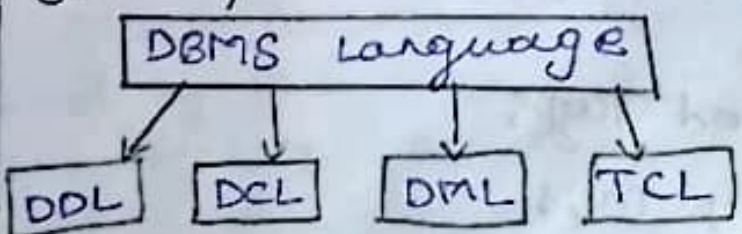
* SQL can set permissions on table, procedures and views.

11.8.23 Database Language in DBMS:

A DBMS has appropriate language and interfaces to express database queries and updates.

Database language can be used to read store and update the data in the database.

Types of Database Language:



DDL: Data Definition Language:

It is used to define database structure or pattern. It is used to create tables, schema, indexes, constraints in the database. using the DDL statements, you can create the skeleton of the database.

DDL (Data Definition Language):

To make/perform changes to the physical structure of any table residing inside a database, DDL is used DDL is a subset of SQL and a part of DBMS (DataBase Management System) DDL consist of commands to commands like (CREATE, ALTER, TRUNCATE and DROP. These commands are used to create or modify the tables in HTML.

DDL commands:

In this section, we will cover the following DDL commands as follows:

(1) create (2) Alter (3) Truncate
(4) drop (5) Rename

CREATE:

This command is used to create a new table in SQL. The user has to give information like table name, column names and their datatypes

Syntax:

```
CREATE TABLE TABLE-NAME
(
    column-1 datatype,
    column-2 datatype,
    column-3 datatype.
    ....
);
```

Ex:

```
CREATE TABLE student-info
(
    college-Id number(2);
    college-name varchar(30);
    Branch varchar(10);
);
```

COMMAND-2,

ALTER: This command is used to add, delete or change columns in the exiting table. The user needs to know to exiting table name and can do add, delete or modify tasks easily.

Syntax:

Syntax to add a column to an exiting table.

```
ALTER TABLE table-name ADD
(column-name datatype);
```

Ex:

```
ALTER TABLE student-info ADD
CGPA number;
```

COMMAND-3:

TRUNCATE:

This command is used to remove all rows from the table, but the structure of the table still exists

Syntax:
Syntax to remove an exiting table:

```
TRUNCATE TABLE table-name;
```

Ex:

```
TRUNCATE TABLE Student-info;
```

COMMAND-4:

DROP:
This command is used to remove an existing table along with its structure from the Database.

Syntax:
Syntax to drop an existing table

```
DROP TABLE table-name;
```

Ex:

```
DROP TABLE Student-info;
```

COMMAND-5:

RENAME:
It is possible to change name of table with or without data in it using simple RENAME command.
We can remove any table object at any point of time.

Syntax:

```
RENAME TABLE <Table name> TO
<new-Table-name>;
```

Ex:

```
RENAME TABLE Employee TO Emp;
```

DML Commands in SQL:

DML is an abbreviation of Data Manipulation Language.

The DML commands in Structured Query Language change the data present in the SQL database. We can easily access, store, modify, update and delete the existing records from the database using DML commands.

The four main DML commands in SQL:

(1) Select command
(2) Insert command
(3) Update command
(4) Delete command.

Select DML command:

The select command shows the records of the specified table.

It also shows the particular record of a particular column by using the 'WHERE' cause.

Syntax:

Select * from table-name;

select columnname$_1$, columnname$_2$ from table-name;

select * from table-name where column name = value;

Select column name1, column name2 from tablename where column name= value;

Example:

Sno	Sname
1	x
2	y
3	z

select * from student;

Sno	Sname
1	x
2	y
3	z

select * from student where sno=1;

Sno	Sname
1	x

select sno, sname from student;

Sno	Sname
1	x
2	y
3	z

Select sno, Sname from student where Sno=1;

Sno	Sname
1	x

Insert DML commands:

Insert is another important Data Manipulation command in Structured Query Language, which allows users to insert data in database

tables!

Syntax:

insert into tablename values (column name1, column name2...);

ex:

insert into Student values (1, 'x', 'p');

Update DML commands:

Update is another most important data manipulation command in Structured Query Language, which allows users to update or modify the existing data in database tables.

Syntax:

update table_name set (column_name1 = value_1, column_nameN = value_N) where Condition;

Here 'update', 'set', and 'where' are the SQL keywords and 'Table_name' is the name of the table whose values you want to update.

ex:

Sno	Sname	Result	Tot
1	x	Pass	90
2	x	pass	90
3	z	fail	90

update Student set Result = 'pass'
where Sno = 3;

Update Student set tot = 90 when
Result = 'pass';

Delete DML commands:

Delete is a DML command which allows SQL users to remove single or multiple existing records from the database tables.

We use the where cause with the Delete command to select specific rows from the table.

Syntax:

Delete from table_name where condition;

Delete from table_name;

Ex:

Delete from Student;
Delet from Student where Sno=3;

Define Table:

A database table is a structure that organizes data into rows and columns form a grid.

Tables are similar to a worksheet.

The row run horizontally and represent each record. The column run vertically and represent a specific field.

Define Grid

The rows and columns interset, form in a grid.

Inter section of the rows and columns defines each cell in the table. The header cell of a column usually displayes the name of the column

Define Record:

The term record in DBMS refers to a collection of items or data Organized within a table

(or)

A set of fields related to a Particular topic

Objects in a database can have one or more values are called Record.

Records are then stored in tables. the tables determine the data

that each record may contain.

Define Field:

A database fields refers to a set of values arranged in a table and has the same datatype.

A field is also known as a column or Attribute.

Setting a key:

Define key:

A key refers to an attribute a set of attributes that help us identify a row (or tuple) uniquely in a table (or relation).

Key contains or nothing but the rules that are to be followed while entering data into columns of the database table. Constraints or nothing but the rules that are to be followed while entering data into columns of the database table.

We have 5 types of key constraints:

NOT NULL:

Ensures that the specified column doesn't contain a Null value.