**DATABASE MANAGEMENT SYSTEM**

**31/10/2021**

**DBMS: -**

Web application: - Website + Web Application (Dynamic webpage)

Projects: Data creation (Form)

Form(designing)

Insert into table\_name to create table

Data implement-Programming

DBMS – Database Management System

SQL - Standard query language

**DBMS: -**

DBMS is the software that is used to manage data at backend side.

DBMS provide facility to store, manipulate access data from the database.

DBMS also provide many facilities to make sure that right data is being stored in the database.

DBMS provides table structure to developer to store and manage data.

There are many applications of DBMS is present, you can use any one of these to store and manage data:

Like: MYSQL, MSSQL, MSACCESS, ORACLE, MONGODB, SQLITE…………

To communicate with the all application of DBMS, there is a systemic way, that is SQL.

SQL: SQL stand for Structured Query language. It provides some pre-defined syntax of queries. These queries are used to create, manipulate and access data in the DBMS application.

SQL mainly provides a way to work with DBMS application.

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Standard way to store data in DBMS is:

Database-> Tables-> Rows/Tuples & Columns/Fields -> Data

…………………………………..

**Types of SQL Commands:**

1. DDL: Data definition language
2. DML: Data manipulation language
3. TCL: Transaction control language
4. DCL: Data Control language

**DDL (Data definition language): -**

DDL stand for data definition language. it has some queries list which specifies the schema of the table.

That means all DDL commands are applied on the schema of table.

Create

Alter

Truncate

Drop

Rename

**DML (Data manipulation language): -**

DML stands for data manipulation language. It has some queries that is applied on data/record of table.

DML commands are used to create, manipulate and access the record of table.

INSERT

UPDATE

DELETE

SELECT

**TCL (Transaction control language): -**

TCL stands for transaction control language. TCL has some command that is used to control the transaction of database.

Commit

Rollback

Save transaction

**DCL (Data Control language): -**

DCL stand for Data Control Language. DCL commands are used to define users of database that who can access the data and who can read and write both on database.

Grant

Revoke

**Data Type: -**

Numeric

Integer

Int

Short Int

Long Int

Float

Money

**Char:** name char (100): Fixed length string

**Varchar:** name varchar (100): variable length string

**N char:** multi-language fixed length string

**N varchar:** multi-language variable length string

**Text:** long size string

**Date:** only date yy-mm-dd

**Time:** only time hh:mm:ss

**Date Time:** collection of date and time : yy:mm:dd hh:mm:ss

**Create:**

Create command is used to make a new database or table.

Syntax to create database:

Create database database\_name;

Syntax to create table:

Create table table\_name

(

Field\_name datatype(size)

Field\_name datatype(size)

-

-

-

);

…………………………………………

**Integrity Constraints:**

Integrity constraints are used with create command that is used to make sure that integrity of database will not be disturbed.

So, integrity constraints are some keywords that is used to make sure that your table will hold correct data.

**Not null:** not null define that this field can not be null for any tuple.

**Default:** Its sets a by- default value for field that will be automatic inserted when this field is null.

**Unique:** Duplicate value is not accepted, but Null value is accepted.

**Primary Key:** UNIQUE+NOT NULL: duplicate value and null value is not accepted.

**Foreign Key:** It stores a value that is already a primary key column value in another table.

**Check:** check validate the value that is inserted into table before insertion.

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**Create Table:**

Create table employee (

Empid int primary key,

Emp\_name char (50) not null,

Salary: int check(salary>10000 and salary<50000),

Mobile\_no char (13) default ‘7518141123’,

Age: int check (age>15)

);

**Insert:**

insert command is used to add new tuples in table.

Syntax:

Insert into table\_name values(value\_1, value\_2, value\_3, value\_4………..);

Ex: -

Insert into employee values(1,’Suraj yadav’,5000,’7518141123’,20);

Syntax\_2: Insert values in specified columns, remains left NULL, Insert into table\_name(column\_name\_1, column\_name\_2, coloun\_name\_3,………………..)values(value\_1, value\_2, value\_3,………….);

Ex:-

Insert into employee(emp\_id, salary) values(2, 40000);

**BULK INSERTION: -**

You can insert multiple rows with single insert command by separating each row by comma.

Insert into table\_name values(3,’’,30000,’’,20),(4,’’,40000,’’,25);

Insert into table\_name values(),(),(),(),();

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**Identity: -**

Identity property can be used only with integer type column. It is used to increment columns value automatic. In some DBMS application it is also known as Auto\_increment.

Create a table with id should be primary key and name should have default value User.

**SYNTAX: -**

Column\_name data\_type(size) identity (seed, increment );

Seed: starting value

Increment: how much value would plus to max value of column

Indentity(100,5);

Create table trainees

(

Id int primary key identity(1,1),

Name char(20) default ‘user’

);