

DATABASE LANGUAGES

Now it is time to do some practical, before it each & every thing was conceptual & logical.

Now Database provides two languages for describing Schema and to perform queries & operation

- Data Definition Language : DDL
 - Data Manipulation Language : DML
- [Combining them become SQL Structured Query Language]

DATA DEFINITION LANGUAGE :-

* Now Suppose you have a Software for DBMS Let MS SQL Server 2008 & you have installed that Software.

* Now it is time to do practical.

Now you have to Create Database then Create a table and define their Schema



So we use DDL to do this all.

There are set of Queries and settings through which we do this.

→ To create a Database we use this Query or Statement

→ CREATE DATABASE AIRTELLTD



This Query will create the Database Named AIRTELLTD.

→ Now its time to Create Table in it.

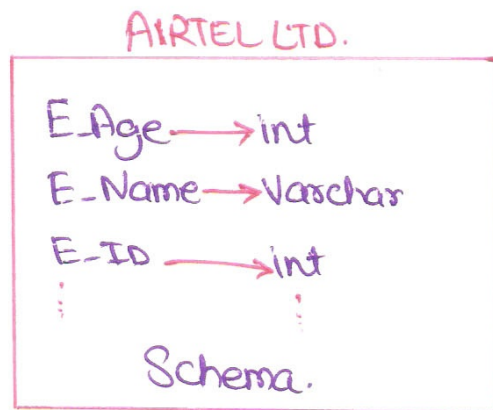
```
CREATE TABLE Employee (EID int , E-Name varchar , E-Age int);
```

This Query will create table Named 'Employee' with attributes E-Name, E-AGE, EID etc With the type of value they can store only.

* As soon as we execute this Statement it updates a Special set of tables Called Data Dictionary or Data Directories.

Data Dictionary Contains Meta Data. i.e Data about the Data.

* Now Here the Schema of the Database with table has Created with those information which we have provided.



Data Dictionary



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→ Storage Structure and Access Methods [Physical Schema]

used by the Database System by a set of statements in a special type of DDL, called a Data Storage and

Definition Language. It defines the Implementation Details of Database Schema, which are usually hidden from the user.

→ Now it's time to enter or insert some data to the table's Attributes. But before entering data values, we have to apply some Constraint / Rules and Limitations on this values.

Eg:- Value in a bank Account takes integer value but Money in an Account Never be -ve Value

Account Name	Amount
Deepak	-2000.00 X
Sanjana	25000.00 ✓

So Here we have to apply constraint to remove or stop this kind of data errors.

Different Types of Constraints are:-

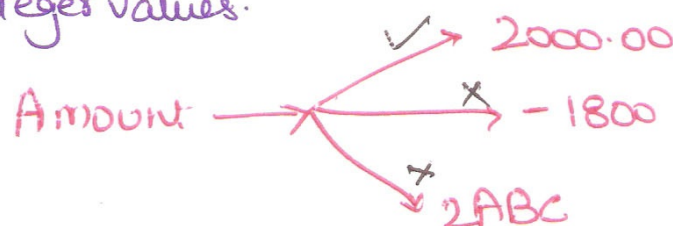
- Domain Constraints
- Referential Integrity
- Assertion
- Authorization



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DOMAIN CONSTRAINT : It specifies the set of possible values that may be associated with an attribute

Eg Like Amount Attribute it will only take positive and integer values.



Referential Integrity :- Value that appears in one relation for a given set of attributes also appears in a other set of attributes in another Relation.

Eg. There are two tables called Emp Detail and Emp Salary Table Emp Detail has Attributes like

EmpID Emp Name

and Emp Salary :- This table has attribute EmpID and Salary, Month

and we have made EmpID referential to the table Emp Salary's attribute EmpID, then values in EmpID of table Emp Detail should match to the EmpID of Emp Salary

* EmpID of table Emp Salary can only have values matches from EmpID of table Emp Detail

Emp_ID	Emp-Name
002	Deepak
009	Ajay
008	Sanjana
006	Raman
007	Sumita
092	Ashoka
085	Rana

Emp Details

EmpID	Salary	Month
008	6000	Jan
007	5000	Jan
092	13000	March
008	6000	Feb
092	15000	April
085	16000	Jan
008	6500	March
002	18000	Aug.

Emp Salary

→ Referential Integrity

So EmpID of Emp Salary can only have value from EmpID of Emp Details
Referential Integrity is implemented with the foreign key

→ Assertions:- It is any condition that the database must always satisfy.

For Eg:- A table of student has attributes Marks, Name as the Maximum Marks is 100 so there will be an assertion on Marks is that value in it cannot be -ve & more than 100.

Subject	Name	Marks	
Hindi	Deepak	200	X
Maths	Rajay	75	✓
SST	Sany	-70	X
Science	Rahul	80	✓

WRONG
VALUES

Value cannot be > 100 & $-ve$ so we have to apply Assertion on it

* Domain Constraint & Referential Integrity are special form of Assertion.

→ Authorization :- Authorization Means Permission

In DBMS ; different Authorizations are applied according to the users.

Different Authorizations are

→ Read Authorization :- Only Reading No Modification

→ Insert Authorization :- Only insert of data which should be new.

→ Update Authorization :- Only update/modification
No Deletion

→ Delete Authorization :- Only Deletion

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