



Yashveer
@yashveerSholiya

Database lang. Notes

DBMS [DATA-BASE-MANAGEMENT-System]

* DATA

- data is a Raw fact
- It is a Collection of Text, Number, DATA etc.

* Information

- The processed data is known as Information
- It is a meaningful data
- Someone's information may be the data for other person

* DATABASE *

The collection of Related data/Information is known as Database

OR

Database : Database is a collection of inter-related data which helps in efficient retrieval, insertion and deletion of data from database and organizes the data in the form of tables, views, schemas, reports etc.

DBMS [DATABASE MANAGEMENT SYSTEM]

DBMS :- (Database Management System) refers to the technology solution use to optimize and manage the storage and retrieval of data from Database.

DBMS :- is a Software designed to store, retrieve, define, and manage data in a Database. Database System are designed to manage large bodies of Information.

DBMS [DATABASE MANAGEMENT System.]

FILE SYSTEM

Purpose of USING DATABASE MANAGEMENT System

- DATA Redundancy & Inconsistency
- DATA Abstraction
- DATA sharing
- Security Problem
- Difficulty in accessing DATA
- Atomicity
- DATA Concurrency
- DATA Independence
- DATA INSTANCES
- Schemas
- MAPPING

 ←
Explaining CHARACTERISTICS OF DATA

DATA BASE - BASICS

- o DATA-items
- o Entities & Attributes
- o Logical & physical DATA
- o Schema & Subschema
- o Data Dictionary
- o META-DATA

VIEW OF DATA

A database system is a collection of interrelated data and a set of programs that allow user to access and modify these data.

- Basically Data view Comprises Abstraction in terms of usability of user
Example :- It Hides Irrelevant details from the users
- Due to the use of Data Abstraction, many database system users are not Computer trained which
- Developers Hide the Complexity from user through several levels of abstraction - to Simplify Users' interaction with System

DATA Abstraction :-

Data abstraction is a process of providing Only the Essential details to the outside world and Hiding the internal details.

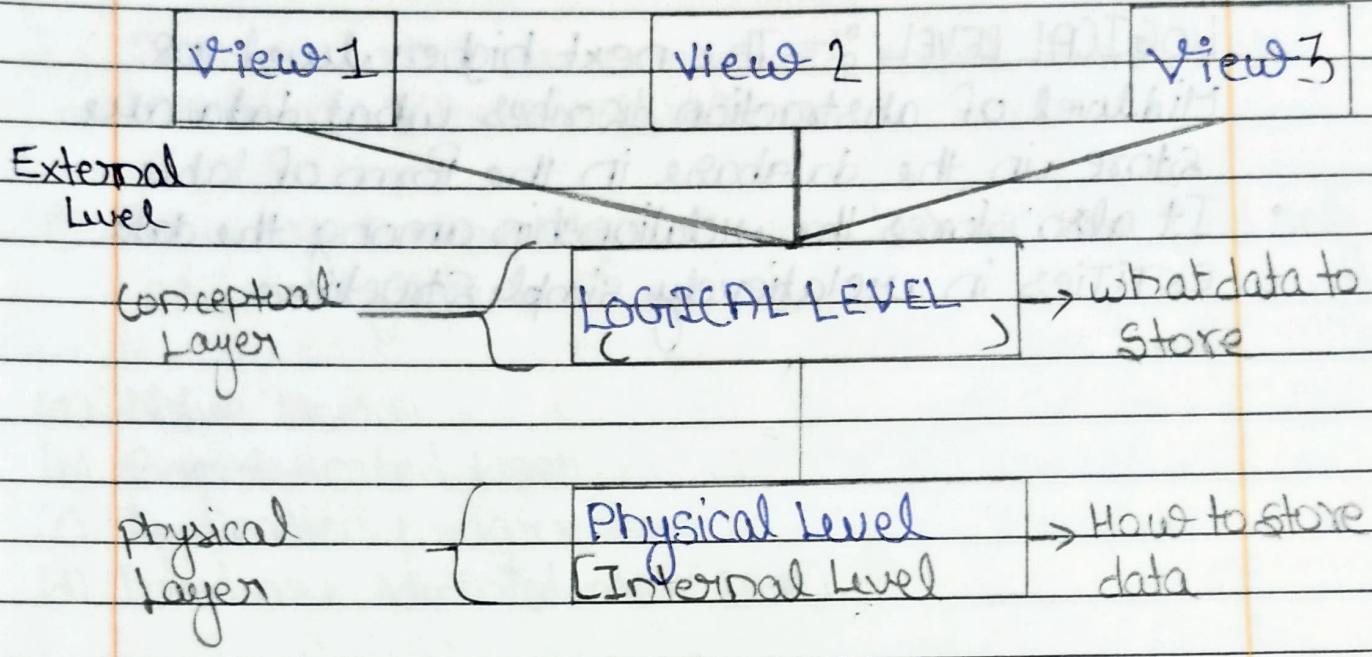


figure: Three Level of Data abstraction

Physical Level :- The lowest level of abstraction describes how the data are actually stored. The physical level describes complex low-level data structure in detail.

- It is also known as Internal Level
- This Data is stored in the External hardisk/drive in the form of bits and at a high level, which is basically stored in FILES & FOLDER

LOGICAL LEVEL :- The next higher level OR Mid-level of abstraction describes what data are stored in the database in the form of table.

- It also stores the relationship among the data ENTITIES in relatively simple structure

View :- This is the highest Level of abstraction

- Only a part of the actual database is viewed by the User.
- User view data in the form of Rows & Columns.

USER

Database users are categorized based up on their interaction with the database

* There are several type of users but we have Read only as our syllabus

- (a) Naive Users
- (b) Sophisticated User
- (c) Application programmer
- (d) Database Administrator (DBA)

Naive User

The users who don't have any knowledge and idea about DBMS are known as Naive User.

Example :-

[Sophisticated User]

Sophisticated User can be Engineer, Scientist or business analyst, who are familiar with the database

- OR the user who can understand and modify the database easily is known as Sophisticated User.
- They can also develop their own database as per requirement.
- They can also interact with database by writing SQL queries directly through query processor.

[Application Programmer]

Application programmer are the back END programmers who writes the code for the application programs.

- They are the Computer Professionals [PRO]
- The programmer can write the programs in many languages like :- Visual Basic, Developer, C, FORTAN, COBOL etc.

[Database Administrator(DBA)]

- Database Administrator [DBA] is a Person/Team who defines the Schema and also Control the three level of Database
- [DBA]- is responsible for Providing Security to the data base
- [DBA]- allows only the Authorized Users to Access/ Modify the database
- [DBA]- DBA also monitors the recovery and back-up & providing technical Support
- The DBA has a DBA account in the DBMS which is known as system or Superuser account.
- [DBA]- is also responsible for Repairs Damage cause due to hardware and/ or software failures.

DATA BASE LANGUAGE

There are 4 types of Languages [in course]

- o - DCL - [Data Control Language]
 - o - DDL - [Data definition Language]
 - o - DML - [Data Manipulating Language]
 - o - TCL - [Transaction Control Language]
- DDL —

- o - It is used to Create Table
- o - Creates a Structure for inserting Data
- o - It is used to store the database

— [Command of DDL Language] —

1. Create - to Create a table / object
2. Alter - changes, Modification in table / Column
3. DROP - Use to delete / destroy the table
4. Rename - It is used to Rename an object

— DML —

This is used to see the data

— [Commands of DML Language] —

1. Insert - [Use to Enter the Data in the table]
2. Update - [Modification/changes in Data]
3. Delete - [Delete the data from the Table]
4. Select - [It shows the data which is present in the Table]
5. Merge - [It Performs insert & Update Operation]
- 6.

[DCL]

- o- DCL stands for DATA Control Language
- o- It is used to Retrieve the stored or Saved data
- o- It also have transaction rollback feature But not in Oracle

DCL Command

1. Grant: It is used to give User access of the Database
2. Revoke: It is used to take back Permission from the User.

TCL

- o- TCL - Transaction Control Language

COMMAND

1. Commit - It is used to Save the transaction on the database
2. Rollback - It is used to Restore the Database to original Since the last Commit