SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING(IoT and Cybersecurity Including BCT)

COURSE NAME : 19SB502   DATABASE MANAGEMENT SYSTEMS

III YEAR / V SEMESTER

Unit I- **INTRODUCTION TO DATA BASE SYSTEM**
Topic : Views of Data

In a database management system (DBMS), views are **virtual tables** that represent a **subset of data from one or more underlying tables.**

Views provide a way to present the data in a customized or simplified manner, tailored to the specific needs of users or applications.

They **do not store any data themselves** but offer a **dynamic and logical representation of data from the underlying tables**.

There are different types of views in a DBMS, each serving specific purposes:

View of data in DBMS describes the abstraction of data at three-level i.e. **physical** level, **logical** level, **view** level.

The physical level of abstraction defines how data is **stored** in the storage and also reveals its access path.

Abstraction at the logical level describes **what data** would be stored in the database? what would be the **relation** between the data? and the **constraints** applied to the data.

The view level or external level of abstraction describes the **application** which the users use to retrieve the information from the database.
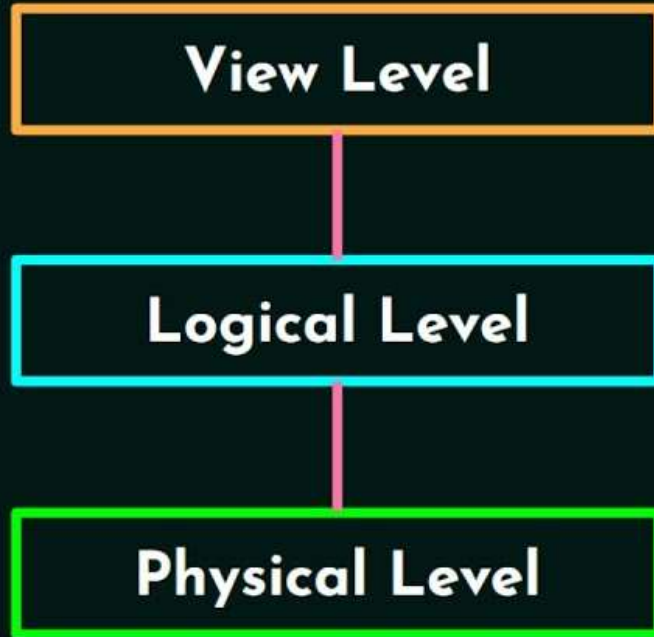
View of Data in DBMS include three elements
1. Data Abstraction
2. Data Independence
3. Instance and Schema

1. Data Abstraction

✓ Data abstraction is **hiding the complex data structure** in order to **simplify the user's interface** of the system.

✓ It is done because many of the users interacting with the database system are not that much computer trained to understand the complex data structures of the database system.

2.Data Independence

Data independence defines the extent to which the data schema can be changed at one level without modifying the data schema at the next level. Data independence can be classified as shown below:
- ✓ Logical Data Independence
- ✓ Physical Data Independence

Logical Data Independence

Logical data independence describes the degree up to which the logical or conceptual schema can be changed without modifying the external schema

Physical Data Independence

Physical data independence defines the extent up to which the data schema can be changed at the physical or internal level without modifying the data schema at logical and view level.

3.Instance&schema:

- ✓ We can define an instance as the information stored in the database at a particular point of time
- ✓ An **instance** is the retrieval of information from the database at a certain point of time. An instance in a database keeps on **changing with time.**

Schema:

Schema is the overall design of the entire database. Schema of the database is not changed frequently.

Any Query????

Thank you……