

## DBMS VIVA Question & Answer!!

### 1.What is Database ?

**Ans:-** A database is defined as “A collection of interrelated data items that can be processed by one or more application programs”.

### 2. What Is Data ?

**Ans:-** Data is a collection of facts, which is unorganized but can be made organized into useful information.

### 3. What is information ?

**Ans:-** Data that have been processed in such a way as to increase the knowledge of the person who uses the data.

### 4. What is Data Processing ?

**Ans:-** The process of converting the facts into meaningful information is known as data processing.

### 5. What is Metadata ?

**Ans:-** Data that describe the properties or characteristics of other data.

### 6. Difference between Files vs Databases ?

**ANS:- File:** A collection of records or documents dealing with one organization, person, area or subject (Manual (paper) files).

**Database:** A collection of similar records with Relationships between the records .

- With the advent of database systems, the file processing approach is no longer used.
- Problems with file processing systems
- Catalog
- Program-data independence
- Views

### 7. What is DBMS?

**Ans:-** Set of programs to access the interrelated data. DBMS contains information about a particular enterprise. Computerized record keeping system.

### 8. What are the Benefits of DBMS ?

**Ans:-** Minimal data redundancy , Consistency of data , Integration of data ,Sharing of data,Ease of application development, Uniform security, privacy, and integrity controls ,Data accessibility and responsiveness ,Reduced program maintenance .

### 9. What is Three level architecture ?

**Ans:- 1. Internal/physical level:** Shows how data are stored inside the system. It is the closest level to the physical storage.

**2. Conceptual/logical level:** Deals with the modeling of the whole database.

**3. External level:** This level models a user-oriented description of part of the database

## 10. What is Mapping ?

**Ans:-** Mapping is the key for providing data independence. Data independence is the capacity to change the schema at one level without having to change the schema at the next higher level.

## 11. What is Data independence ?

**Ans:-** Data independence is the capacity to change the schema at one level without having to change the schema at the next higher level. Two types of data independence are:-

**1. Logical data independence** (provided by external/ conceptual mapping) Ability to modify conceptual schema without changing External views and Application programs.

**2. Physical data independence :- Ability to modify internal or physical schema without changing**

- Conceptual or view level schema
- Application programs
- Changes to physical schema may be necessary to Improve performance of retrieval or update

## 12. Logical vs. Physical ?

**ANS:-** Achieving logical data independence is more difficult than physical data independence .Because application programs heavily rely on the logical structure of the data, they access.

## 13. What is Entity ?

**Ans:-** Entities are represented by means of rectangles. Rectangles are named with the entity set they represent.

## 14. What is Attributes?

**Ans:-** Attributes are the properties of entities. Attributes are represented by means of ellipses. Every ellipse represents one attribute and is directly connected to its entity (rectangle).

## 15. What is Relationship ?

**Ans:-** Relationships are represented by diamond-shaped box. Name of the relationship is written inside the diamond-box. All the entities (rectangles) participating in a relationship, are connected to it by a line.

## 16. What is Hierarchical Database Model ?

**Ans:-** Hierarchical Database model is one of the oldest database models. This model is like a structure of a tree with the records forming the nodes and fields forming the branches of the tree.

## 17. What is Primary Key Constraint ?

**Ans:-** A **primary key**, also called a **primary** keyword, is a **key** in a relational database that is unique for each record. It is a unique identifier, such as a driver license number, telephone number (including area code), or vehicle identification number (VIN).

## 18. What is Foreign key ?

**Ans:-** Attribute of one table which is primary key of another table .A **foreign key** is a **key** used to link two tables together. This is sometimes also called as a referencing **key**. A **Foreign Key** is a column or a combination of columns whose values match a Primary **Key** in a different table.

## 19. What is Super Key ?

**Ans:-** A superkey in a database management system (DBMS) is a set of one or more attributes (columns) that can uniquely identify a record or tuple within a database table. It may contain more attributes than the minimum required for uniqueness.

## 20. Why we normalize the data .?

**Ans:-** We normalize data in a database for the following main reasons:

Eliminate data redundancy and ensure efficient storage.

Maintain data integrity and consistency.

Simplify database maintenance and updates.

Improve query performance and data retrieval.

Support scalability and adaptability to changing requirements.

## 21. what is transitive dependency ?

**Ans:-** Transitive dependency is a type of functional dependency that occurs when the value of one attribute (column) in a table uniquely determines the value of another attribute through a third attribute.

## 22. which SQL command create schema in mysql ?

**Ans:-** The SQL command used to create a schema (database) is the `CREATE DATABASE` command.

Here's the syntax: `CREATE DATABASE database_name;`

## 23. What is schema ?

**Ans:-** A schema is a logical container or blueprint that defines the structure and organization of a database. It represents the overall design of the database, including tables, relationships, data types, and constraints.

## 24. what is locking mechanism in DBMS ?

**Ans:-** A locking mechanism is a concurrency control technique used to manage access to shared resources, such as database tables or records, among multiple concurrent transactions or processes.

## 25. What is concurrency control in DBMS?

**Ans:-** Concurrency control in a database management system (DBMS) is a set of techniques and mechanisms that ensures the proper coordination and synchronization of concurrent transactions or processes accessing shared data.

## 26. what is RDBMS ?

**Ans:-** RDBMS stands for Relational Database Management System. In a short way, RDBMS is a type of database management system that stores and organizes data in a tabular format, using rows and columns.

## 27. Difference between DBMS vs RDBMS ?

**Ans:-** 1. **DBMS (Database Management System)** is a broader term that refers to any software or system used to manage and store databases. It may or may not follow the relational model.

2. **RDBMS (Relational Database Management System)** is a specific type of DBMS that organizes data in a tabular format with rows and columns. It follows the relational model and uses relationships between tables to store and retrieve data efficiently.

## 28. condition of 3 normal form ?

**Ans:-** The conditions for the third normal form (3NF) in database normalization are as follows:

### 1. First Normal Form (1NF):

- Eliminate duplicate rows by making each cell hold only atomic (indivisible) values.
- Ensure each table has a primary key that uniquely identifies each row.

### 2. Second Normal Form (2NF):

- Satisfy 1NF.
- Remove partial dependencies, which occur when non-key attributes depend on only part of the primary key.
- Move non-key attributes that depend on a portion of the primary key to a separate table.

### 3. Third Normal Form (3NF):

- Satisfy 2NF.
- Eliminate transitive dependencies, which occur when non-key attributes depend on other non-key attributes.
- Move non-key attributes that depend on other non-key attributes to their own separate table.

## 29. What is entity integrity ?

**Ans:-** Entity integrity ensures that each row (entity) in a database table is uniquely identifiable through a primary key, and that primary key attributes cannot contain null values.

### 30. What is SQL ?

**Ans:-** SQL (Structured query language ) is a non – procedural Language . Which was introduced by the IBM in 1970's. Which is used to communicate with data .

### 31. What is DDL command ?

**Ans:- DDL(Data Definition Language )** commands are using to define, modify & drop on object or database from SQL server.

DDL Command – **1.Create , 2.Alter , 3. Sp\_Rename , 4.Truncate , 5. Drop**

### 32.What is DML command ?

**Ans:-** DML (Data manipulation language ) commands are used to change or manipulate data in database table .

DML commands – **1. Insert , 2. Update , 3. Delete**

### 33. What is DQL command ?

**Ans:-** DQL ( Data Query Language ) commands are used to retrieve data from a database.

DQL command – **1. Select**

### 34. What is TCL command ?

**Ans:- TCL(Transaction Control language )** are used to manage transactions in a database .

TCL Command – **1.Commit , 2. Rollback , 3. Savepoint**

### 35. What is DCL ?

**Ans:- DCL (Data Control Language)** are used to control access to data within a database.

DCL Command- **1. Grant, 2.Revoke**

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