**• What do you understand By Database..?**

* Database is systematic collection of data which support storage and manipulation of data in easy way. For example:-Telephone diary, Facebook.

**• What is Normalization?**

* Normalization is the process of organizing data in a database. This includes creating tables and establishing relationships between those tables according to rules designed both to protect the data and to make the database more flexible by eliminating redundancy and inconsistent dependency.

**• What is Difference between DBMS and RDBMS?**

|  |  |
| --- | --- |
| DBMS  (Database management system) | RDBMS  (Relational database management system) |
| Data stored is in the file format | Data stored is in table format |
| Individual access of data elements | Multiple data elements are accessible together |
| No connection between data | Data in the form of a table are linked together |
| There is normalisation | Normalisation is not achievable |
| Data stored is a small quantity | Data is stored in a large amount |
| DBMS supports a single user | RDBMS supports multiple users |

**• What is MF Cod Rule of RDBMS Systems?**

* A database must obey in order to be regarded as a true relational database
* Dr Edgar Frank codd Makes 13 rules. These rules can be applied on any database system that manages stored data using only its relational capabilities.
* Rules 0: *Foundation Rule*:-For any RDBMS this acts as a base for all the rules
* Rule 1:*Information Rule*:-Everything in database must be stored in a table format(Rows & columns)
* Rule 2: *Guaranteed Access Rule:-*Every single data element(value) is guaranteed to be accessible via:-table-name or primary key & attribute-name.
* Rule 3:-*Systematic Treatment of Null Values:-*The null values in a database must be given systematic & uniform treatment. NULL can be interpreted as – data missing /blank space/data is not known.
* Rule 4:-*Active Online Catalogue*:-structure description of the entire database must be stored in an online catalogue, which can be accessed by authorized users (data administrator). User can use the same query language to access the catalogue
* Rule 5:-*Comprehensive data sub-language rule*:-A database can only be accessed using a language. RDMS uses SQL(structured query language)
* Rule 6:-*View Updating Rule*:-All the views of database, which can theoretically be updated, must also be updatable by the system.

Example:-account view/sales view/customer view

* Rule 7:-*High-level insert, update and delete rule*:-RDBMS must support high-level insertion update and delete.it must also support union, intersection and minus operation.
* Rule 8:-*Physical data independence:-*The data stored in a database must be independent of the applications that access the database. For example:-Any physical changes in website should not effect to user accessing it.
* Rule 9:-*Logical Data Independence*:-The logical data in a database must be independent of its user’s view. For example:-if two tables are merged there should be no impact on application.
* Rule 10:-*Integrity Independence*:-Any data inserted on the table should maintain its integrity no changes in its value. For example:-if age is inserted 10 the no changes in value it must store as 10.
* Rule 11:-*Distribution independence:-*The end user must not able to see that data is distributed over various locations. Users should always get impression that the data is located at one site only. Example:-Users may access website from different locations
* Rule 12:-*Non-Subversion Rule*:- SQL language to store and manipulate the data in the database. If a system has a low-level or separate language other than SQL to access the database system, it should not subvert or bypass integrity to transform data.
* **What do you understand By Data Redundancy?**
* Redundancy means multiple copies of the same data.
* Duplicated copies of the same data is stored at many places.

**• What is DDL Interpreter?**

* Data definition language. DDL statements are used to build and modify the structure of your tables and other objects in the database. When you execute a DDL statement, it takes effect immediately.

**• What is DML Compiler in SQL?**

* DML stands for Data Manipulation Language. DML compiler translates the DML statements which are there in a query language into the low-level instructions which the query evaluation engine understands easily.
* Some DML commands:-
  1. INSERT: Used to insert data into table
  2. UPDATE: Used to update existing data within table
  3. DELETE: Used to delete records from database table
  4. LOCK: Table control concurrency

**• What is SQL Key Constraints writing an Example of SQL Key Constraints.**

* SQL constraints are used to specify rules for the data in a table. Constraints are used to limit the type of data that can go into a table. This ensures the accuracy and reliability of the data in the table.

1. Primary key: - PRIMARY KEY constraints say that the field in the table should not be NULL, and it should be unique as well. It is a column-level constraint. Primary Key constraint is used to ensure that the constrained column should have unique and NOT NULL values. The primary key has automatically UNIQUE and NOT NULL constraints applied to it. It is usually used to index the table or uniquely identify each tuple in the table. Syntax:-create table people(id int not null unique, name varchar(20) not null, primary key(id));
2. Foreign Key: -A FOREIGN KEY is a field (or collection of fields) in one table that refers to the PRIMARY KEY in another table. The table with the foreign key is called the child table, and the table with the primary key is called the referenced or parent table.

**• What is save Point? How to create a save Point write a Query?**

* SAVEPOINT: creates points within the groups of transactions in which to ROLLBACK.
* A SAVEPOINT is a point in a transaction in which you can roll the transaction back to a certain point without rolling back the entire transaction.
* Syntax for Save point command: SAVEPOINT SAVEPOINT\_NAME;

**• What is trigger and how to create a Trigger in SQL?**

* A trigger in MySQL is set of sql statement that reside in a system catalog.it is a special type of stored procedure that is invoked automatically in response to an event.
* each trigger is associated with a table, which is activated on any DML statement such as INSERT,UPDATE or DELETE Syntax:-create trigger trigger name time (before/after) trigger event on table\_name for each row begin variable declaration trigger code end;