ASSIGNMENT

Module 3

1.What do you understand By Database?

Ans: database is an organized collection of data stored in a computer system and usually controlled by a database management system (DBMS). The data in common databases is modeled in tables, making querying and processing efficient. Structured query language (SQL) is commonly used for data querying and writing.

The Database is an essential part of our life. We encounter several activities that involve our interaction with databases, for example in the bank, in the railway station, in school, in a grocery store, etc. These are the instances where we need to store a large amount of data in one place and fetch these data easily.

2. What is Normalization?

Ans: Normalization is the process of organizing data in a database. It 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.

3.What is Difference between DBMS and RDBMS?

Ans:

DBMS	RDBMS
DBMS stores data as file.	RDBMS stores data in tabular form.
Data elements need to access individually.	Multiple data elements can be accessed at the same time.
No relationship between data.	Data is stored in the form of tables which are related to each other.
Normalization is not	Normalization is present.

DBMS	RDBMS
present.	
DBMS does not support distributed database.	RDBMS supports distributed database.
It stores data in either a navigational or hierarchical form.	It uses a tabular structure where the headers are the column names, and the rows contain corresponding values.
It deals with small quantity of data.	It deals with large amount of data.
Data redundancy is common in this model.	Keys and indexes do not allow Data redundancy.
It is used for small organization and deal with small data.	It is used to handle large amount of data.
Not all Codd rules are satisfied.	All 12 Codd rules are satisfied.
Security is less	More security measures provided.
It supports single user.	It supports multiple users.
Data fetching is slower for the large amount of data.	Data fetching is fast because of relational approach.
The data in a DBMS is subject to low security levels with regards to data manipulation.	There exists multiple levels of data security in a RDBMS.
Low software and hardware necessities.	Higher software and hardware necessities.
Examples: XML, Window	Examples: MySQL, PostgreSQL, SQL Server, Oracle,

DBMS	RDBMS
Registry, Forxpro, dbaseIIIplus etc.	Microsoft Access etc.

4. What is MF Cod Rule of RDBMS Systems?

Ans: Codd's rules are proposed by a computer scientist named Dr. Edgar F. Codd and he also invent the relational model for database management. These rules are made to ensure data integrity, consistency, and usability. This set of rules basically signifies the characteristics and requirements of a relational database management system (RDBMS).

5. What do you understand By Data Redundancy?

Ans : Data redundancy in a Database Management System (DBMS) refers to the repetition of the same data in multiple places within a database. It is a concern because it can lead to inconsistencies, update anomalies, and increased storage requirements, impacting data integrity and database performance.

6. what is ddl interpreter?

Ans: It interprets the DDL (Data Definition Language) Instructions and stores the record in a data dictionary (in a table containing meta-data).

7. What is DML Compiler in SQL?

Ans: A DML (data manipulation language) refers to a computer programming language that allows you to add (insert), delete (delete), and alter (update) data in a database. A DML is typically a sublanguage of a larger database language like SQL, with the DML containing some of the language's operators.

8. What is SQL Key Constraints writing an Example of SQL Key Constraints.

Ans: 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. If there is any violation between the constraint and the data action, the action is aborted.

Constraints can be column level or table level. Column level constraints apply to a column, and table level constraints apply to the whole table.

The following constraints are commonly used in SQL:

- `NOT NULL` - Ensures that a column cannot have a NULL value
- `UNIQUE` - Ensures that all values in a column are different
- `PRIMARY KEY` - A combination of a `NOT NULL` and `UNIQUE`. Uniquely identifies each row in a table
- `FOREIGN KEY` - Prevents actions that would destroy links between tables
- `CHECK` - Ensures that the values in a column satisfies a specific condition
- `DEFAULT` - Sets a default value for a column if no value is specified
- `CREATE INDEX` - Used to create and retrieve data from the database very quickly

9. What is save Point? How to create a save Point write a Query?

Ans:

- Savepoint is a command in SQL that is used with the rollback command.
- It is a command in Transaction Control Language that is used to mark the transaction in a table.
- Consider you are making a very long table, and you want to roll back only to a certain position in a table then; this can be achieved using the savepoint.
- If you made a transaction in a table, you could mark the transaction as a certain name, and later on, if you want to roll back to that point, you can do it easily by using the transaction's name.
- Savepoint is helpful when we want to roll back only a small part of a table and not the whole table. In simple words, we can say savepoint is a bookmark in SQL.

10. What is trigger and how to create a Trigger in SQL?

Ans: A trigger is a stored procedure in a database that automatically invokes whenever a special event in the database occurs. For example, a trigger can be invoked when a row is inserted into a specified table or when specific table columns are updated. In simple words, a trigger is a collection of SQL statements with particular names that are stored in system memory.

It belongs to a specific class of stored procedures that are automatically invoked in response to database server events. Every trigger has a table attached to it.Because a trigger cannot be called directly, unlike a stored procedure, it is referred to as a special procedure. A trigger is automatically called whenever a data modification event against a table takes place, which is the main distinction between a trigger and a procedure. On the other hand, a stored procedure must be called directly.