Assignment Module: 5 DATABASE

Basics of Database.

1. What do you understand by Database.

Ans. Database is a collection of related and data is a collection of facts and figures that can be processed to produce information. Mostly data represents recordable facts. Data aids in producing information, which is based on facts. For example, if we have data about marks obtained by all students, we can then conclude about toppers and average marks.

1. What is Normalisation?

Ans. Normalisation is the process of organizing the data in the database. Normalisation is used to minimize the redundancy from a relation or set of relations. It is also used to eliminate the undesirable characteristics like Insertion, Update and Deletion Anomalies. Normalisation divides the larger table into the smaller table and links them using relationship.

1. What is difference between DBMS and RDBMS?

Ans. Database Management System (DBMS) provides more flexibility but requires developers to handle data integrity and organization manually. Relational Database Management System (RDBMS) imposes a structured approach to data organization and enforces data integrity through the relational model and SQL.

1. What is MF Cod Rule of RDBMS Systems?

Ans.

1. What do you understand by Data Redundancy?

Ans. Data redundancy refers to the duplication of data within a database or information system. In other words, it occurs when the same piece of data is stored multiple times in the same database or across different databases. This redundancy can lead to several problems like wasted storage space, inconsistency, Performance issues etc. To minimize data redundancy, database normalization techniques are often employed, which involve organizing data in a database in such a way that redundancy is reduced or eliminated. This helps improve data integrity, efficiency, and overall system performance.

1. What is DDL Interpreter?

Ans. DDL Interpreter interprets the DDL (Data Definition Language) Statements and records the generated statements in the table containing Metadata.

1. What is DML Compiler in SQL?

Ans. DML (Data Manipulation Language) is a sub-language of larger database language called SQL (Structured Query Language). DML Compiler complies (Translates) the DML statements such as select, update and delete into machine readable object code to make it executable.

1. What is SQL Key Constraints? Write 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 violation between the constraints and the data action, the action is aborted. Examples of SQL key constraints:

* 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.

1. What is save point? How to create a save point? Write a Query.

Ans. A save point 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 creating save Point command: SAVEPOINT SAVEPOINT\_NAME;

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

Ans. An SQL trigger is a database object that is associated with a table and automatically executes a set of SQL statements when specific event occurs on that table. Steps to create trigger in SQL:

1. Create trigger trigger\_name – Creates or replaces an existing trigger with the trigger\_name.
2. Before/After – This specifies when the trigger will be executed.
3. Insert/Update/Delete – This specifies the DML operation.
4. On table\_name – This specifies the name of the table associated with the trigger.
5. For each row – This specifies a row level trigger, i.e., the trigger will be executed for each affected row.
6. Trigger\_body – This provides the operation to be performed as the trigger is fired.