Database

Module 4 – Introduction to DBMS

Introduction to SQL:

1. What is SQL, and why is it essential in database management?

Ans:

1. Explain the difference between DBMS and RDBMS.

Ans:

1. Describe the role of SQL in managing relational databases.

Ans:

1. What are the key features of SQL?

Ans:

SQL Syntax:

1. What are the basic components of SQL syntax?

Ans:

1. Write the general structure of an SQL SELECT statement.

Ans:

1. Explain the role of clauses in SQL statements.

Ans:

SQL Constraints:

1. What are constraints in SQL? List and explain the different types of constraints.

Ans:

1. How do PRIMARY KEY and FOREIGN KEY constraints differ?

Ans:

1. What is the role of NOT NULL and UNIQUE constraints?

Ans:

Main SQL Commands and Sub-commands (DDL):

1. Define the SQL Data Definition Language (DDL).

Ans:

1. Explain the CREATE command and its syntax.

Ans:

1. What is the purpose of specifying data types and constraints during table creation?

Ans:

ALTER Command:

1. What is the use of the ALTER command in SQL?

Ans:

1. How can you add, modify, and drop columns from a table using ALTER?

Ans:

DROP Command:

1. What is the function of the DROP command in SQL?

Ans:

1. What are the implications of dropping a table from a database?

Ans:

Data Manipulation Language (DML):

1. Define the INSERT, UPDATE, and DELETE commands in SQL.

Ans:

1. What is the importance of the WHERE clause in UPDATE and DELETE operations?

Ans:

Data Query Language (DQL):

1. What is the SELECT statement, and how is it used to query data?

Ans:

1. Explain the use of the ORDER BY and WHERE clauses in SQL queries.

Ans:

Data Control Language (DCL):

1. What is the purpose of GRANT and REVOKE in SQL?

Ans:

1. How do you manage privileges using these commands?

Ans:

Transaction Control Language (TCL):

1. What is the purpose of the COMMIT and ROLLBACK commands in SQL?

Ans:

1. Explain how transactions are managed in SQL databases.

Ans:

SQL Joins:

1. Explain the concept of JOIN in SQL. What is the difference between INNER JOIN, LEFT JOIN, RIGHT JOIN, and FULL OUTER JOIN?

Ans:

1. How are joins used to combine data from multiple tables?

Ans:

SQL Group By:

1. What is the GROUP BY clause in SQL? How is it used with aggregate functions?

Ans:

1. Explain the difference between GROUP BY and ORDER BY.

Ans:

SQL Stored Procedure:

1. What is a stored procedure in SQL, and how does it differ from a standard SQL query?

Ans:

1. Explain the advantages of using stored procedures.

Ans:

SQL View:

1. What is a view in SQL, and how is it different from a table?

Ans:

1. Explain the advantages of using views in SQL databases.

Ans:

SQL Triggers:

1. What is a trigger in SQL? Describe its types and when they are used.

Ans:

1. Explain the difference between INSERT, UPDATE, and DELETE triggers.

Ans:

Introduction to PL/SQL:

1. What is PL/SQL, and how does it extend SQL's capabilities?

Ans:

1. List and explain the benefits of using PL/SQL.

Ans:

PL/SQL Control Structures:

1. What are control structures in PL/SQL? Explain the IF-THEN and LOOP control structures.

Ans:

1. How do control structures in PL/SQL help in writing complex queries?

Ans:

SQL Cursors:

1. What is a cursor in PL/SQL? Explain the difference between implicit and explicit cursors.

Ans:

1. When would you use an explicit cursor over an implicit one?

Ans:

Rollback and Commit Savepoint:

1. Explain the concept of SAVEPOINT in transaction management. How do ROLLBACK and COMMIT interact with savepoints?

Ans:

1. When is it useful to use savepoints in a database transaction?

Ans: