**SQL Assignment 3**

1.Create a function and then call another function from within it. What is this process called?

The process of calling one function from within another function is called **function composition** or **nested function calls**.  
 The outer\_function() is called, which prints "This is the outer function."

nside outer\_function(), inner\_function() is called, which prints "This is the inner function."

This is an example of **function composition**, where one function is called within another.

2.How to inspect the query's execution plan?

To inspect a query's **execution plan** in SQL, you typically use the EXPLAIN or EXPLAIN ANALYZE command. This gives you a detailed view of how the database engine is executing your SQL query, showing things like how tables are being joined, indexes being used, and the cost of each operation.

3.What is the purpose of the MAXDOP and recompiling keywords in SQL queries?

The **MAXDOP** option controls the number of processors used to execute a query in parallel. In modern servers with multiple CPU cores, SQL Server can split the execution of a query across multiple processors to improve performance. The **MAXDOP** setting limits the number of processors used for parallel query execution.  
  
The **RECOMPILE** option forces SQL Server to regenerate the execution plan for the query every time it's executed. Normally, SQL Server caches query execution plans to reuse them in future executions for better performance. However, sometimes cached plans may become inefficient due to changes in data distribution or parameters. **RECOMPILE** ensures that the query always gets a fresh, optimized execution plan.

4.How to build DDL statements from an existing database table, write steps for it?  
Use built-in commands like SHOW CREATE TABLE (MySQL) or sp\_helptext (SQL Server) to extract DDL statements directly.

Use DBMS GUI tools like **SSMS**, **MySQL Workbench**, or **pgAdmin** to generate DDL scripts for tables.

Use system views and metadata tables to query the structure of the database programmatically.  
  
For command-line operations, use mysqldump, pg\_dump, or similar tools for database systems.

5.How to update data in a table using an inner join, write an example?  
can update data in one table using an **INNER JOIN** with another table in SQL. This technique is useful when you want to update values in one table based on related values in another table. The **INNER JOIN** ensures that only matching rows between the two tables are updated.  
**Example**

Let's say we have two tables:

1. **employees**: Contains employee details.
2. **departments**: Contains department information.  
     
   Now, we want to **update the salary** of employees by adding the department's **bonus** to their  
   current salary. We can do this using an UPDATE query with an INNER JOIN.  
     
   UPDATE employees AS e INNER JOIN departments AS d ON e.department\_id = d.department\_id SET e.salary = e.salary + d.bonus;

6.Differentiate between truncate, delete, and drop with a suitable example.

 **DELETE**: Use it when you want to delete specific employees, for example, employees who belong to the HR department.

 **TRUNCATE**: Use it when you want to remove all employees but keep the table structure intact for future use.

 **DROP**: Use it when you want to completely remove the employees table from the database because it’s no longer needed.