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Introduction to Stored Procedures

Unlock database efficiency with stored procedures!

DEFINITION

> Stored procedures are precompiled SQL code that can be executed as a single command. They help streamline database operations and improve performance.

KEY CONCEPTS

Precompiled Execution

Stored procedures are compiled once and can be executed multiple times, saving time.

Parameterization

They can accept parameters, allowing for dynamic queries and reducing code duplication.

Security

Stored procedures can enhance security by restricting direct access to tables and data.

Transaction Control

They can manage transactions, ensuring data integrity during multiple operations.

Error Handling

Stored procedures can include error handling mechanisms to manage exceptions effectively.

EXAMPLES

→ CREATE PROCEDURE GetEmployeeDetails @EmpID INT AS SELECT * FROM Employees WHERE ID = @EmpID;

→ EXEC GetEmployeeDetails @EmpID = 5;

→ CREATE PROCEDURE UpdateSalary @EmpID INT, @NewSalary DECIMAL AS UPDATE Employees SET Salary = @NewSalary WHERE ID = @EmpID;

MEMORY TIPS

★ Think of stored procedures as 'recipes' for database tasks.

★ Remember 'PREP' for Precompiled, Reusable, Efficient, Parameterized.

★ Visualize stored procedures as 'containers' holding SQL commands.

COMMON MISTAKES

✗ Forgetting to declare parameters in the procedure definition.

✗ Neglecting to handle exceptions, leading to ungraceful failures.

✗ Using stored procedures for trivial queries instead of simple SQL statements.

QUICK RECAP

Stored procedures are efficient, reusable SQL commands that improve performance and security. They allow for parameterization and transaction control, making them essential for complex database operations.