The key differences between a **function** and a **stored procedure** in databases are as follows:

**1. Purpose:**

* **Function**: Primarily used to perform calculations, transformations, or return a single value. It can be used in SQL statements (like SELECT) to return scalar values, or even tables in some cases.
* **Stored Procedure**: Primarily used to perform complex operations, which may include multiple SQL statements like SELECT, INSERT, UPDATE, DELETE, and even control-of-flow logic.

**2. Return Type:**

* **Function**: Must return a value (either a scalar value, table, or object). It cannot return more than one result set.
* **Stored Procedure**: Can return zero, one, or more result sets. It may or may not return a value.

**3. Usage:**

* **Function**: Can be used in SQL queries (like SELECT, WHERE, or HAVING clauses). It is generally not designed to make changes to the database state.
* **Stored Procedure**: Cannot be used directly in SQL queries. It is used to execute multiple operations in a batch.

**4. Modification of Data:**

* **Function**: Cannot perform any DML (Data Manipulation Language) operations like INSERT, UPDATE, DELETE (though in some databases, functions may allow limited modifications in certain contexts).
* **Stored Procedure**: Can perform DML operations to modify data in the database.

**5. Transaction Control:**

* **Function**: Cannot control transactions (e.g., COMMIT or ROLLBACK).
* **Stored Procedure**: Can include transaction control (e.g., COMMIT, ROLLBACK).

**6. Error Handling:**

* **Function**: Typically, has limited error handling capabilities.
* **Stored Procedure**: Supports more advanced error handling (like TRY...CATCH blocks).

**7. Execution:**

* **Function**: Called like a part of an expression or in queries.
* **Stored Procedure**: Executed via a CALL or EXEC statement.

In short, functions are more suited for computing and returning values, while stored procedures are more suited for executing complex business logic and database modifications.

