# [REPORT]

# [SQL DIFFERENCES]

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# Report

## 1) Trigger and stored procedure

| Procedure | Trigger |
|---|---|
| A Procedure is explicitly called by the user/ application using statements such as exec, Execute, or simply procedure name | A Trigger is implicitly invoked whenever any event such as Insert, Delete, or Update occurs in a Tables. |
| A procedure helps to perform a specified task when it is invoked. | When an event occurs, a trigger helps to execute an action automatically. |
| We can define/call procedures inside another procedure. | We cannot define/call a trigger inside another trigger. |
| All transaction statements such as Commit and Rollback are allowed in procedures. | Transaction statements such as Commit, Rollback are not allowed in triggers. |
| Procedures are used to perform tasks defined or specified by the users. | Triggers are used to maintain referential integrity by keeping a record of activities performed on the table. |
| We can return 0 to N values. However, we can pass values as parameters. | We cannot return values in a trigger. Also, we cannot pass values as a parameter. |

## 2) Stored procedure and functions

| Functions | Procedures |
|---|---|
| A function has a return type and returns a value. | A procedure does not have a return type. But it returns values using the out parameters. |
| You cannot use a function with DML. Only Select queries are allowed in functions. | You can use DML queries such as insert, update, and select with procedures. |
| A function does not allow output parameters | A procedure allows both input and output parameters. |
| You cannot manage transactions inside a function. | You can manage transactions inside a procedure. |

| | |
|---|---|
| You cannot call stored procedures from a function | You can call a function from a stored procedure. |
| You can call a function using a select statement. | You cannot call a procedure using select statements. |

3) drop and delete statement

| DELETE | DROP |
|---|---|
| Removes (Data) some or all rows from a table | Removes (Structure) named elements of schema like relations/table, constraints or entire schema. |
| DML command. | DDL command. |
| WHERE clause is used to add filtering. | No WHERE clause is available. |
| Can be roll backed as it works on data buffer. | Cannot be roll-backed as it works directly on data. |
| Table memory space is not free if all records are | Drop command frees the memory space. |
| More Slower than delete | More Faster than delete |

4) select and select into statement

| Select | Select into |
|---|---|
| The Select Statement in SQL is used to display data from table | The SELECT INTO statement in SQL Server is used to copy data from one (source) table to a new table. |

## 5) DDL,DML,DCL and DQL

| DDL | DML | DCL | DQL |
|---|---|---|---|
| Data Definition Language | Data Manipulation Language | Data Control Language | Data Query Language |
| Used to define the database schema. And is used to create and modify the structure of database objects in the database. | Deals with the manipulation of data present in the database and controls access to data and to the database. | Deal with the rights, permissions, and other controls of the database system. | Allows getting(retrieve) data from the database and imposing order upon |
| CREATE - DROP<br>ALTER- TRUNCATE:<br>COMMENT- RENAME: | INSERT - UPDATE-<br>DELETE | GRANT-<br>REVOKE | SELECT |

## 6) Table valued and multi statement function

| Table Valued Function | Multi statement Function |
|---|---|
| It simply state returns table's definition will be depend on the function's Select statements | Your returns syntax specifies the structure of the return table that the function is going to return whereas in the (MSTV) Function the returns clause defines the structure of the table that the function is going to return. |
| It has faster performance than delete command | It has slower performance than Drop command |
| Faster | Slower |

## 7) Varchar(50) and varchar(max)

| Varchar(n) | varchar(max) |
|---|---|
| Non-Unicode variable-length character data. | Non-Unicode large variable-length character data. |
| varchar is a variable, you can assign a value to it | Varchar (max) is a constant, it has a value of max. |
| The maximum storage capacity for varchar is 8000 bytes. | The maximum storage capacity is (2 GB). |
| You can create an index on the varchar column. | You cannot create an index on the varchar (max) column. |

## 8) SQL and windows Authentication

| SQL | Windows Authentication |
|---|---|
| SQL Server authentication: works by storing username and password in the “Master” database server. | Windows authentication : depends Active Directory(AD)to authentication before they connect to SQL for the Domain |
| It can be used in situations where Active Directory is not available | Windows authentication use series of encryption to ensure no leak of sensitive data |
| You can create multiple users under SQL authentication to provided different users | Microsoft recommends Windows authentication mode because AD is the best way to manage password polices |
| User have some permissions | User have all permissions |

## 9) Inline function and view

| Inline function | View |
|---|---|
| can be built with a parameter | Cannot be built with a parameter |
| Cannot use DMLs query | Can use DMLs query |
| Can return values | Cannot return values |

## 10) Identity and unique Constraint

| Identity | Unique Constraint |
|---|---|
| provides an auto-incrementing number | Not provides an auto-incrementing number |
| Table can have only one | Table can have more than one it need and can have only null value |