1. What is View? What are the benefits of using views?

View is a virtual table consists of columns from different tables

To Simplify Data Manipulation: Views can simplify how users work with data. You can define frequently used joins, projections, UNION queries, and SELECT queries as views so that users do not have to specify all the conditions and qualifications every time an additional operation is performed on that data

Views enable you to create a backward compatible interface for a table when its schema changes.

To Customize Data: Views let different users to see data in different ways, even when they are using the same data at the same time. This is especially useful when users who have many different interests and skill levels share the same database. For example, a view can be created that retrieves only the data for the customers with whom an account manager deals. The view can determine which data to retrieve based on the login ID of the account manager who uses the view.

Distributed queries can also be used to define views that use data from multiple heterogeneous sources

This is useful, for example, if you want to combine similarly structured data from different servers, each of which stores data for a different region of your organization.

1. Can data be modified through views?

No. Updating data in a view will not affect other tables.

1. What is stored procedure and what are the benefits of using it?

A stored procedure groups one or more Transact-SQL statements into a logical unit, stored as an object in a SQL Server database

Benefits:

Increase database security . Using stored procedures provides increased security for a database by limiting direct access. Stored procedures generally result in improved performance because the database can optimize the data access plan used by the procedure and cache it for subsequent reuse

Faster execution: Stored procedures generally result in improved performance because the database can optimize the data access plan used by the procedure and cache it for subsequent reuse

Stored procedures help centralize your Transact-SQL code in the data tier. Websites or applications that embed ad hoc SQL are notoriously difficult to modify in a production environment. When ad hoc SQL is embedded in an application, you may spend too much time trying to find and debug the embedded SQL. Once you’ve found the bug, chances are you’ll need to recompile the page or program executable, causing unnecessary application outages or application distribution nightmares. If you centralize your Transact-SQL code in stored procedures, you’ll have only one place to look for SQL code or SQL batches. If you document the code properly, you’ll also be able to capture the areas that need fixing

Stored procedures can help reduce network traffic for larger ad hoc queries. Programming your application call to execute a stored procedure, rather then push across a 5000 line SQL call, can have a positive impact on your network and application performance, particularly if the call is repeated thousands of times a minute

Stored procedures encourage code reusability.

1. What is the difference between view and stored procedure?

View is a virtual table, usually used to store the result of joining different tables.

Stored procedures are more like functions, consist of more complex logic and has input parameters.

1. What is the difference between stored procedure and functions?

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| --- | --- |
| Function must return a value. | Stored Procedure may or not return values. |
| Will allow only Select statements, it will not allow us to use DML statements. | Can have select statements as well as DML statements such as insert, update, delete and so on |
| It will allow only input parameters, doesn't support output parameters. | It can have both input and output parameters. |
| It will not allow us to use try-catch blocks. | For exception handling we can use try catch blocks. |
| Transactions are not allowed within functions. | Can use transactions within Stored Procedures. |
| We can use only table variables, it will not allow using temporary tables. | Can use both table variables as well as temporary table in it. |
| Stored Procedures can't be called from a function. | Stored Procedures can call functions. |
| Functions can be called from a select statement. | Procedures can't be called from Select/Where/Having and so on statements. Execute/Exec statement can be used to call/execute Stored Procedure. |
| A UDF can be used in join clause as a result set. | Procedures can't be used in Join clause |

1. Can stored procedure return multiple result sets?

Yes

1. Can stored procedure be executed as part of SELECT Statement? Why?

No because it may or may not return a value.

1. What is Trigger? What types of Triggers are there?

Triggers are a special type of stored procedure that get executed (fired) when a specific event happens.

DDL Trigger.

DML Trigger.

Logon Trigger.

1. What are the scenarios to use Triggers?

Enforce Integrity beyond simple Referential Integrity

Implement business rules

Maintain audit record of changes

Accomplish cascading updates and deletes

1. What is the difference between Trigger and Stored Procedure?

Trigger is a special type of stored procedure that runs automatically when some events happen, so it is automatically executed while sp is invoked by users. Trigger cannot have input parameter and return values while sp can. Triggers cannot have transaction statements while sp can have.