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Assignment 4

1. Explain why Views are an important part of a RDMS.

The use of views is important part of a RDMS because view makes using complex SQL code much easier to manage and use, and, therefore, improve user’s performance (Roots, 2018). Although the data itself is crucial, the way we present the data is also very important. The View is one of the most powerful method that user can use to present data using SQL statement in RDMS. Views can join and simplify number of tables into a single virtual table(En.wikipedia.org, 2018). Also, views can be used to aggregate data and present the calculated result to retrieve information from the data(En.wikipedia.org, 2018). The view is also efficient in storage wise since the views take little space to store. Furthermore, views can act as a security guard to our important data since programmer can restrict the access and exposure of important data by using view. For example, programmer can split rows of the data by view using partitioning technique and only allow access to certain rows in the table to protect other data.

1. Explain the differences between a view and a custom table function (UDF).

Despite the Views and User-Defined Functions serves almost the same purpose, the major difference between Views and User-Defined Functions is that User-Defined Function can accept parameters, whereas Views cannot. Since Views can not accept parameters, it only can only query fixed data by single SELECT statement unless WHERE statement is added. However, function can change parameters to query different data with single function only by changing parameter values (Biradar, 2018). Another big difference between Views and UDF is that while Views can only return table, UDF can also return scalar value (Roots, 2018). For example, UDF can make a function that takes two parameters and returns product of two int parameters (Roots, 2018).

1. Explain the differences between a view and a stored procedure.

First, while the views can not accept parameters, a stored procedure can accept parameter. Allowing the parameters gives a stored procedure more flexibility in what it can do than the views (Roots, 2018). For example, view cannot perform modification to any table. But a stored procedure can perform modification such as loops, if/else statements and other modifications (I Like Kill Nerds, 2018). In order to run View, one uses SELECT statement while a stored procedure uses EXECUTE statement to run. Also, unlike view, a stored procedure can PRINT or SELECT data which, in the case of PRINT, the result is shown on the message tab. Furthermore, during the reporting, while the views can only report table with fixed data, a stored procedure can query different data by changing the parameters. For example, in stored procedure, one can type ‘South Korea’ to parameter to see only data related to South Korea.

1. Explain how transaction statements are used in a stored procedure.

The transaction statement is a single unit of work that modifies the database permanently if successful (Roots, 2018). The transaction statements are used in a stored procedure for similar purposes. Unlike view or function, a stored procedure supports transaction statements. The transaction statements are used in a stored procedure with three different statements, and they are BEGIN, COMMIT and ROLLBACK. Anytime one wishes to commit transaction statement to a stored procedure, one should start their code with BEGIN TRANSACTION. Once the programmer started with BEGIN TRANSACTION, he or she can continue modifications to database. If one wishes to insert new row, INSERT INTO statement followed by name of columns that one wishes to add data. Once programmer finish adding the VALUES, programmer must end the transaction with COMMIT TRANSACTION statement to indicate that the transaction is finished. If transaction made was inappropriate, programmer can use ROLLBACK statement to undo the transaction (Roots, 2018). However, this only works if the transaction has not yet completed. Which means, when you have not committed transaction. The transaction is not only limited to insertion. One can use transaction statement in a stored procedure to update, modify and delete the data from database (Docs.memsql.com, 2018).

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