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Assignment 4

SQL Progamming

Introduction

In this paper, we will examine what roles the views can contribute on the relational database management system (RDMS), and distinct features of custom table function of user-defined functions and of stored procedures compared to views.

Question 1: Importance of Views on RDMS

Views are one of the key abstract layers of RDMS as the views let users access to the visualization of the selected data without directly accessing to the table stored in database. Thus, for relational database management system, where the data is stored in their relations to each other, the views can offer the feature to present the specific database we are trying to access without keeping calling the database itself. For instance, if we want to know the customer’s name and their orders last week, we need to use select statement with customer table with joining on the order table; the problem is that if we only use select statement every time we want to know about the customer and their orders, we inevitably require to create the statement every time; however if we present those data by creating views, we now can access that views without writing the statement again and again.

Question 2: Difference between View and Custom Table Function

Custom table function, one of types of user defined functions, returns the table with our customized data. It may seem similar to what views can do as both can present the selected data we want to see. However, customer table function can offer the freedom of users what to access when there is similar data required to be presented. For views, we use where statement to access specific type of selected data, but we have the problem where we need to create each views for each specific types. On the other hand, we can implement the parameters which allow us to avoid creating individual views for individual types of selected data since we can just put different parameters to show the general case that can be applied to every individual type of data. For instance, in lecture, we saw the case to present the views for year 1997 by putting the statement saying that where year = 1997, but the problem is that if we want to access data from 1998 or any other years, we need to create other views for those. On the other hand, if we create year parameter in our custom table function, we are able to present selected data with only specifying the parameters -- no need to create whole statements about the different years . Also the custom table functions can offer the features to create columns which can simplify the visualization of data presented, which is known as Key Performance Indicator (KPI); in the lecture, we used KPI to compare the status of quantity for each product in the data (Root, R. Module04Notes, 2018).

Question 3: Difference between View and Stored Procedure

The stored procedures are “named collection[s] of SQL programming code” (Root R, Module04Notes, 2018). That is, like views storing presentation of data and functions storing some general functions on the data, the stored procedures can store the statements to be executed. Thus, one small difference is that to run the stored procedures we use execute command, not select command like views. Also, similar to the functions, we can put parameters to make a general executable statement, which is difference to the views described in question 2 above. Overall, the stored procedures have more freedom than the views --even we can excute print in the stored procedures.

Summary

As we have observed the key features of views for creating database based on RDMS, and the distinct features of user-defined custom table functions and the stored procedures unique to the views, we have understood more thoroughly onto the concept of SQL as RDMS programming language.