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Foundations of Databases & SQL Programming

Assignment 06

Github: https://github.com/danjhively/DBFoundations

**Views, Functions, and Stored Procedures**

**Written Assignment**

**Introduction**

In this week's module we covered Views, Functions, and Stored Procedures. I will cover that material in this paper by explaining when to use a SQL View, and I will explain the differences and similarities between Views, Functions, and Stored Procedures.

**When to use a SQL View**

There are many reasons to use SQL Views. One of these is the use of Basic Views, which are virtual copies of the tables in a database. These virtual copies allow users to safely interact with the data without accidentally changing or deleting data. They can also be helpful in easily summarizing data from multiple tables in a database into a single table from a single statement call, making it easier to interact with the data without needing to know the full structure of the database. Also along those lines a View can help users continue to interact with the data even if structural changes happen to the tables by tweaking the View to have it maintain the same output. Another more straight-forward use is to allow the saving of complex (or simple) queries for use multiple times.

**View vs. Function vs. Stored Procedure**

* View:
  + Contains a set of SQL statements
  + Does not accept parameters
  + Cannot add/alter/delete the data in the database tables
  + Outputs a table
  + Can be used in Select statements
* Function:
  + Contains a set of SQL statements
  + Does accept parameters
  + Cannot add/alter/delete the data in the database tables
  + Outputs a table or scalar
  + Can be used in Select statements
* Stored Procedure:
  + Contains a set of SQL statements
  + Does accept parameters
  + Can add/alter/delete the data in the database tables
  + Cannot be used in Select statements

**Conclusion**

In this paper I've covered the utility of Views, and the different strengths and weaknesses between Views, Functions, and Stored Procedures. We've seen how useful these tools are for ensuring database integrity, allowing users easier access to data, and cleanly summarizing the data present in a database. They provide another powerful building block in building up our database knowledge.