Database views

Database views are searchable virtual objects in relational databases. Unlike ordinary base tables a view is not part of a physical schema and they are searchable and defined by stored queries. Views can consist of two or more combined tables, if data is changed in one of the tables used to create the view, the view will be updated once the view in question is called again.

The benefits of using views are:

· Security – we use views to restrict accesses to certain tables and only show non sensitive data with the help of views. This was used to hide the private information of members when accessing them in the database.

· Storage – as storing views only consist of storing the definition of it and not an actual copy, it takes up very little space in the database and helps us avoid needing a large storage solution with the absence of duplicate data.

· Helps with enforcing business logic – with the use of views it is easier to define business rules, such as when a book is borrowed and by who it is borrowed.

The tradeoffs of using views:

· Performance – To create views we need to query multiple tables, it can take a toll on the database engine.

· Update restrictions – depending on the complexity of the view, it might be a read only, as updating it would require the update of the tables which it consists of.

As shown in (figure x), we create the view of the most loaned books by joining the Materials, Copy and the Loan table as the count was only achievable this way.

