UGANDA CHRISTIAN UNIVERSITY

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COURSE: Bachelors Of Science In Computer Science

COURSE UNIT: DATABASE DESIGN AND APPLICATIONS

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Take-home questions

I. Define Normalization and how it has been applied in your project.

Normalization is a database design technique that reduces data redundancy and eliminates undesirable characteristics like insertion, update and deletion anomalies. I have applied normalization in my project by dividing large table into smaller tables and linked them using relationships. I have three tables that contain data from the csv sample data.

II. Define the different transaction animalities giving examples from your project and how they can occur.

Update anomaly- This is a data inconsistency that results from data redundancy and a partial update. For example; Each customer has a ticket associated with them as well as a movie they have chosen to watch. If there is an error in customers, it will be updated at least two times or there will be inconsistent data in the database.

Insertion anomaly- This is the inability to add data into the database due to absence of other data. For example; Assuming customers table is defined so that null values are not allowed. If a new customer arrives but not added to customers table, then the customer will not be added to the database.

Deletion anomaly- This is an anomaly that occurs when you delete a record that contains attributes that shouldn't be deleted. For instance; Suppose we remove information about the last record in customers table such as a name, all the name information disappears.

III. Suggest ways in which the security of your database can be enhanced

- Limiting data access.
- Use of Data encryption
- Performing Data redaction
- Implementing Database Activity Monitoring
- Creating regular backups of the database