COP3703 Intro to Databases
Exam 1 Notes

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August 25, 2022

Contents

1. Week 1

1.1. Definitions

Database   a collection of related data with implicit meaning.

DBMS   Database management system. A software package/system to facilitate the creation and maintenance of a computerized database that takes care of storage, query execution, and database manipulation.

Database System   The DBMS software together with the data itself. Sometimes, the applications are also included.

Data Records   Rows or columns of data with correlated data.

Data Elements   Elements within a database, like cells in Excel.

Data Types   Integer, Varchar(255), etc.

Program-data Independence   Insulation between programs and data. Allows changing data structures and storage organization without having to change the DBMS access programs.

Data Abstraction Conceptual data representation different from data storage. Words and recognizable symbols rather than the raw ones and zeros of low level computation.

Actors   Everything interacting with the database system: DBMS designers, system admins, database admins, users, apps, data source, etc.

1.2. Database Attributes

2. Week 2

2.1. Definitions

Schemas/Schemata	Data (record) structure, untyped, no constraints or relationships, and doesn't change frequently. **Description of data**.
Schema Evolution	the change of a schema (avoid it). Could indicate poor design if required.
Schema Construct	Specific names of schemata (table headers/titles).
Database Snapshot	Data of databases at a specific time.
Empty State	Only the schema, **no population**.
Initial State	When the database is first populated

2.2. Database Creation

Every time the database is updated, we get another database state i.e. the current state (current snapshot)