MSDS 7330
File Organization and Database Management
Homework MySQL

Name:

This is a homework assignment for MSDS 7330, File Organization and Database Management. Print out this document, and unless directed otherwise, hand write your answer to a question in the white space under the question. Scan your completed solutions and email them in a single pdf file to the instructor. Be sure to put your last name in the filename.

Collaboration is expected and encouraged; however, each student must hand in their own homework assignment. To the greatest extent possible, answers should not be copied but, instead, should be written in your own words. Copying answers from anywhere is plagiarism, this includes copying text directly from the textbook. Do not copy answers. Always use your own words. Directly under each question list all persons with whom you collaborated and list all resources used in arriving at your answer. Resources include but are not limited to the textbook used for this course, papers read on the topic, and Google search results. Don't forget to place your name on every page.

MySQL Database

Question 1 : A database contains a collection of data relevant to an enterprise. A database-management system (DBMS) provides a set of programs to manage the data and to access the data stored in the enterprise's databases. The database system and the DBMS were designed to overcome the limitations of the typical file processing systems used prior to the invention of the modern database. Identify three broad problems experienced with file processing systems, such as data integrity problems, and discuss how a database system might be able to overcome the problems.

Collaborators: Cory Nichols

Resources: Silberschatz, Abraham, Henry Korth and S. Sudarshan. Database system Concepts 6th ed.

Data consistency is a major problem associated with traditional file processing systems. Multiple applicati programs can access and modify data. Further, multiple authors using different programming languages create application programs to manage the data and files on disk. This lack of organization can lead to duplication of data and an inconsistent state. A DBMS solves the consistency issue by providing one storage location with unified application programs to interact with the data.

A DBMS promotes data integrity via constraints. These constraints come in the form of domain constraints, foreign key constraints and other data constraints. These constraints prevent erroneous values and scenarios from occurring in the database. A traditional file processing system would require new development and potentially adjustments to other parent and child application program in order to implement new constraints. A DBMS allows constraints to flow seamlessly through the database with little to no development, preserving integrity and saving time.

Security features are robust in a DBMS. Instead of managing multiple application program security levels, a DBMS offers the DBA an ability to centralize and customize security across many databases, relations and even at the tuple level. Users can be permissioned to view, update, create and much more. Traditional file processing systems require updates to application programs and do not offer a one-size fits most security approach.