CS 327 Spring 2025

Homework 1

Basic Concepts/ DBMS Architecture

Due on Moodle before class on Friday, January 31. Submit a single PDF file.

Question 1:

    a. List any three advantages of using a database over traditional file storage.   [3]

    b. List any three situations where using a database would be disadvantageous.   [3]

Question 2:

    a. Describe in your own words, what is meant by data abstraction.   [2]

    b. Write in your own words, the difference between database schema and database instance.

    [2]

Question 3: Write brief answers to the following, in your own words:

    a. When starting up your servers, which should you start first: the Apache web server or the MariaDB database server? Why?   [3]

    b. What does A_I mean, in the context of a table column? What is it used for?   [2]

Question 4: Create a database called "college". In it, create a table called "student." It should have a numeric ID column that is the primary key, a firstname, a lastname (both 30 characters long), a decimal GPA column, an email column and a phone number column. Only the phone number column is allowed to be null, and the email must be unique.

View the SQL code for the table creation and copy-paste it as the answer to this question.   [5]