ICS 311 Summer 2023
Final Exam Study Guide

Introduction

- Database
- DBMS
- Instance and Schema (difference between the two)
- Normalization

Relational Database

- Natural Join
- What is a database?
- What is a Database Management System?
- What is the deference between database instance and a schema?
- Define data model? List the types described in the book.
- What is a database domain?

Introduction to SQL

- SQL select
- SQL Create table.
- SQL Update
- SQL Insert
- SQL Delete

Intermediate SQL

Join Expression

- Understand all the type of joins

Views

- Benefit of using View
- Issues with View as regards to SQL Update/Delete/Insert.

Database Design and the ER Model

Overview of Database Design Process

ER Model
- Creating an ER Diagram
- Identifying the relation and business rules of an ER Model.

Normalization and Functional Dependency

- Study Class Lecture and Notes.

Indexing and Hashing

- Lectures

Transactions

- Identify Transactions
- Transaction Stages
- The ACID properties and how they are applied to transactions. Given a transaction, analyze how the ACID applies.

Concurrency Control

- Class Lecture and Notes.

Recovery System

- Class Lecture and Notes