

CSCI 240 Midterm Review



The Relation

- Columns, Rows, Cells, and Tables (relations)
- Understand Relationships between Relations
- Understand how relations are implemented

Normalization

- Why and What it does
- Types of Keys (Primary, Candidate, Composite, and Surogate)
- Understand how relations are implemented
- Normal forms
 - 1NF: Remove Repeating and multivalued attributes (i.e. columns are atomic)
 - 2NF: Remove partially dependent attributes
 - 3NF: Remove transitive dependence.

Basic SQL

- Data Types (don't worry about integer sizes)
- CREATE TABLE
- INSERT INTO
- SELECT
- WHERE clause
- DISTINCT
- ORDER BY
- GROUP BY
- Aggregation (COUNT, SUM, AVERAGE, MIN, MAX)
- UPDATE

Advanced SQL

- Sub query (i.e. nested queries)
- Join Types
 - INNER JOIN
 - OUTER JOIN
 - Cross Product
- DROP TABLE
- ALTER TABLE
- VIEW
- Aliasing (the AS keyword)

Analysis

- Entity, Relationships, and attributes
- Relationship cardinality
- Attribute cardinality
- ER Diagram
 - Crow's foot notation

Logical Design

- Implement Relationships
 - Many-many
 - One-many
 - One-one
- Implement Entities
 - Selecting Primary Keys
 - Dependent entities
 - Subtype
- Implement Attributes
 - Plural