Cpt-140 Database Concepts

Week 6: The Relationship Model 2 (RM2)

Learning Objectives.

In this topic the tools for determining the quality of a database design are covered. We consider the Normal Forms for databases. We look at functional dependencies and how to manipulate them. The concepts of a super keys and Closure are covered. We also look at the anomalies that occur in a badly designed databases.

- Be able to explain what a *functional dependency* is and be able to give an example.
- Know what the *Inference Rules* (*Reflexivity*, *Augmentation* and *Transitivity*) are.
- Know how to use the Inference rules to manipulate FDs.
- Know how to identify *Trivial* FDs and *Redundant* FDs.
- Be able to define the terms *superkey* and *closure*.
- Know how to confirm a set of attributes is a key by calculating its *closure*.
- Know the definition of *Boyce Codd Normal Form (BCNF*)
- Be able to test a relation to confirm (or otherwise) it is in BCNF.
- Understand the term *data redundancy* and explain why it is not a good thing.
- Gain an understanding of how decomposition can improve a database design .

Reading for this week

These Sections from the text book.
3.1, 3.2 and 3.3.1 - 3.3.3