

Final Week

Overview: Database Design

- ❖ Data models: ER, Relational Data Model and their mapping
- ❖ Relational Algebra: be able to use relational algebra to answer question.
- ❖ Database Languages: SQL, PLpgSQL (final exam: need be able to determine yes or no for SQL)
- ❖ Relational Database Design: Functional Dependency, Normal Forms, Design Algorithms for 3rd normal form and B-C normal form (3.5 normal form)
- ❖ UML (Excluded from the Final Exam)

Overview: DBMS

- ❖ Disk, Files, Buffer Replacement Policy
- ❖ Indexing Basic
- ❖ Transaction Management
 - ACID properties
 - Various schedules: Serializable, Conflict-Serializable, Schedule Graph, Wait for Graph, ...
 - concurrency control (locking, time-stamp ordering) --- for multi-versioning, optimistic, only need to know the basic idea.
- ❖ Graph Processing. (We only exam the understanding of the problem definition)
- ❖ Graph Systems (Not examined)

Final Exam

10 question just answer yes or no

- ❖ 2 hrs
- ❖ Based on understanding
- ❖ **If you do not feel well on the exam day, please not attend the exam. If you attend the exam, no sup-exam will be given!**
- ❖ **Consultation: One week prior to the final exam.**
- ❖ **Sample questions will be out soon. Please note that sample questions just reflect the difficult degree but not the scope nor the similarity.**