

Final Exam Review

Tom Kelliher, CS 318

May 3, 2002

1 Administrivia

Announcements

Assignment

From Last Time

Atomic, durable, and distributed transactions.

Outline

1. Course evaluation.
2. Review for final.

Coming Up

Project demos and final.

2 Review For Final

- Chapters covered: 8, 9, 11, 14, and 15.

- Same format as last time:
 1. Short answer/definition: 4 @ 15 points each.
 2. Problem solving: 2 @ 20 points each.
- This exam will count for 22.5% of final grade, as will the midterm.

1. Normalization:

- (a) Functional dependencies, closure, attribute closures. Use in checking entailment.
- (b) Decompositions: lossless, dependency preserving.
- (c) Minimal covers.
- (d) BCNF, 3NF. BCNF decomposition, 3NF synthesis.

2. Triggers:

- (a) General form.
- (b) Consideration, execution, granularity.
- (c) Multiple enabled triggers.
- (d) Controlling cascading triggers. (Hand-off discussion to cascading triggers expert, John T.)
- (e) PL/pgSQL.

3. Physical disk organization:

- (a) CHS addressing and components of access time.

4. Data storage structures:

- (a) Heap structure.

- (b) Sorted structure.
 - (c) Indexing schemes: clustered/unclustered, sparse/dense, search keys with multiple attributes, multi-level indices (ISAM, B⁺ trees).
 - (d) Efficiency analysis.
5. Query processing:
- (a) External sorts, projections, unions, differences.
 - (b) Select.
 - (c) Join.
 - (d) Access paths and efficiency analysis.
6. Transactions:
- (a) Isolation.
 - (b) Atomicity.
 - (c) Durability.
 - (d) Distributed transactions.