

Review for the Final Exam

SQL

- Simple SQL and writing SQL queries
- Views
- Integrity constraints
- Not covered in the exam
 - Authorization
 - Embedded SQL
 - ODBC/JDBC

Other Query Languages

- Relational algebra
- Relational calculus
- Not covered in the final exam
 - Query-by-example (QBE)
 - Datalog

ER Design

- ER diagram
- ER design
- Relational model
- Relational design
- Translation ER design to relational design

Relational Database Design

- Functional dependencies
- BCNF and 3NF
- Closure and lossless decomposition
- Using BCNF and 3NF
- 4NF

XML

- XML syntax
- DTD
- XPath and XQuery
- Not included in the final exam
 - XMLSchema

DW, OLAP, Data Mining and IR

- Data warehousing
 - Concept of data warehousing
 - Star schema and snowflake schema
- Data mining
 - Association rules, the apriori algorithm
 - Classification, decision trees, information gain and the ID3 algorithm
- Information retrieval
 - TF-IDF
 - PageRank

Possible Questions in the Exam

- Writing/translating queries in multiple query languages
 - SQL, relational algebra, relational calculus
- ER design, relational design and the translation
- Improving relational database design using normal forms
- Writing queries in XPath and XQuery
- Simple applications of data warehousing, data mining and information retrieval techniques

About the Exam

- Time and location
 - 12-3 pm December 10th, 2007 (Monday)
 - WMC 3520
- Cheat sheet: every student is allowed to bring a cheat sheet of size up to 216 mm x 279 mm (US letter size)
 - You can write/print on both sides of the cheat sheet
- You may bring a calculator if you want

Office Hours

- We will have more office hours this week
- My office hours
 - 2-3 pm, December 5th (Wednesday)
 - 4-5 pm, December 6th (Thursday)
 - 2-3 pm, December 7th (Friday)
 - 10-11 am, December 10th (Monday)
- TA's office hours
 - 3:30-4:30 pm, December 5th (Wednesday)
 - 10-11 am, December 10th (Monday)