

# Exam Information

CMPT 354

Database Management Systems

Oliver Schulte

# The Cheat Sheet

- You can use a cheat sheet.
- 1 (one) 8.5 x 11 sheet of notes for reference, both sides.
- No other aides.

# Topics Covered: Exam 1

- See Lecture Schedule for textbook sections covered.
- All material up to .
- Database principles
  - functionality of a DBMS.
  - reasons for using a database.
- Database Design
  - ER model
  - integrity constraints
  - relational model
  - translate from ER to relational model
- Queries
  - Basic SQL.
    - set operators, set comparisons
  - relational algebra

# Topics NOT Covered: Exam 1

- x Aggregate Functions (Max, Sum,...)
- x Group By
- x Null Values
- x anything after aggregate functions

# Topics Covered: Exam 2

- See Lecture Schedule for textbook sections covered.
- All material up to XML.
- Queries: SQL beyond relational algebra.
  - aggregate operators
    - group by, having
  - null values, outer joins
- Application Development
  - database connectivity (calling SQL within a host language)
  - stored procedures/functions
- Internet Applications: 3-tier design
  - HTML
  - Maintaining State
  - XML
  - XPath

# Topics NOT Covered: Exam 2

- x Details of Middle Tier
  - x Java Beans, Java Script, CGI
- x Material in Book but not slides

# Topics Covered: Exam 3

- See Lecture Schedule for textbook sections covered.
- All material up to and including query planning.
- File Organization
  - Heap Files, sorted files
  - indexes and associated choices (alternatives 1-3, Hash index, B-tree, clustered)
  - cost of different operations
- Implementing RA operators
  - selection (including using indexes to implement)
  - join (including using indexes to implement)
- Query Planning
  - annotated relational algebra tree
  - high-level comparison of different query plans

# Topics NOT Covered: Exam 3

- x XML, XPath
- x No questions of type “write a query for this task”
- x detailed cost estimation for annotated relational algebra tree



# Exam Logistics

- **Please bring ID to the exam.**
- Be on time.
- We start at 1:30 pm when the class starts.
- No calculators, smartphones, textbook, notes.
- Read the instructions ahead of time – posted on the web.
- SQL keywords and such are provided.
- Links to sample exams as well.
  - Unfortunately, these come with solutions.

# What else is there?

- CMPT 454: Database Systems II.
  - Transaction Management.
  - Query Planning.
  - Optional topics, e.g. data mining, information retrieval, OLAP.
- CMPT 470: Web-based Info Systems.
  - Ch.7, some of Ch.6, like Assignment 3.
  - Major project, often build a web page with database behind it.