

## CS 445 Exam 2 Review Questions

### E-R Diagrams

See attached.

### Functional Dependencies & Normalization

Definitions (FD, key, super key, 3<sup>rd</sup> normal form, BCNF)  
3NF vs BCNF

19.4.1

19.7.1 Change part (b) to: Is R in 3NF? If no, put it into 3NF.

Change part (c) to: Is R in BCNF? If no, put it into BCNF. Does this new breakdown preserve all dependencies and is it lossless?

19.8.2

### Advanced SQL:

Sub-queries

Indexes

When to use, what is the benefit of. Given a table definition and query, what should the indexes be?

Text matching

Control flow (IF, IFNULL)

Having

Using your assignment one database:

List all properties that have an asking price of more than \$700,000 per acre.

List all properties that have a below average asking price of \$ per room.

List all properties as either LUXURY or FAMILY. A LUXURY home has more than 6 rooms, a FAMILY home has 6 or fewer rooms.

Example output:      14 Elm Street , FAMILY  
                          11 Main St, LUXURY

List all properties as either EXTRAVAGANT, LUXURY or FAMILY. A, EXTRAVAGANT home has more than 10 rooms, a LUXURY home has 10 to 7 rooms, a FAMILY home has 6 or fewer rooms.

Example output:      14 Elm Street , FAMILY  
                          11 Main St, LUXURY  
                          12 Marvin Gardens, EXTRAVAGANT

List all undeveloped properties that have 2 or more offers.

List all undeveloped properties that have 1 or more offers but have not been sold.

List all properties in Oregon that have 0 offers made.

See the questions at the end of

[http://zeus.cs.pacificu.edu/chadd/cs445f09/Lectures/cs445\\_advancedSQL.pdf](http://zeus.cs.pacificu.edu/chadd/cs445f09/Lectures/cs445_advancedSQL.pdf)