**Review for CS385 Final Exam**

**There will be questions worth of 10 points on**

* Relational expression
* Tupple-based relational calculus
* SELECT construct

**Entity-Relationship Model**

* Be able to design ER diagram for a database
* Reduction of ER diagram to relational schema

**Relation Database Design**

* Goals of database normalization
* Atomic domains and the First normal form
* Conditions of the Boyce-Cod normal form (BCNF)
* Functional dependency and trivial functional dependency
* Armstrong’s axioms and rules
* Why is the closure of functional dependencies needed
* Potential uses of closure of attribute(s)
* Canonical cover of functional dependencies

**Not Just SQL (NoSQL)**

* Why is NoSQL needed? Where is NoSQL most used?
* Challenges in distributed DB management systems? How are they addressed?
* Key-value pairs used as main data structure in NoSQL.
* Good design of key-value pair.

**General Questions**

* Derive closure of functional dependencies
* Determine and prove super key
* Derive closure of attribute(s)
* Simple decomposition of a relational schema with functional dependencies using BCNF
* Derive canonical cover of functional dependencies