CS 336
EXAM 1
STUDY GUIDE

1. Concepts: data, information, mini world, information system design, data storage, concurrency, DBMS, database model, hierarchical model, network model, relational model, object oriented model.
2. Entity Relationship Diagram
    a) Entity set (attributes)
    b) Relationship
    c) Primary key representation
    d) n-ary relationships
    e) Constraints: participation and cardinality
    f) isa (class) hierarchy
    g) Weak entities
    h) Reification
    i) Aggregation
    j) Manifestation (notes lecture_03_01)
3. The Relational Model
    a) Relation (tuples, fields, columns, attributes, rows, records)
    b) Formal definition of relation (domain, arity, cardinality)
    c) Relational Database
    d) Integrity constraints
    e) Domain (and extended domain) constraints
    f) Keys: primary, candidate, superkey
    g) Foreign Key
    h) Effect of INSERT, DELETE, UPDATE on constraints
    i) Notation of a Relation including pk, fk and constraints.
4. From ER to Relational Model
    a) Goals of table design
    b) Mapping Entity Sets
    c) Mapping Relationships (one-to-one, many-to-one, many-to-many, weak)
    d) Mapping Isa relationships
    e) Merge Rule