**chapter 5 Design**

**Presentation-4**

**前4组准备1-9题的ppt**

1. How many and What are the phases of Software Development Lifecycle?
2. Explain the following concepts.

DB Systems, Database Development Lifecycle

1. How many and What are the phases of Database Development Lifecycle?
2. Tell the tasks of each phase of Database Development Lifecycle.
3. Why do we need E/R Model (Purpose)?
4. What components are included in E/R Model?
5. Explain the following concepts.

* Attribute,
* Attribute Domain
* Simple Attribute
* Composite Attribute
* Single-valued Attribute
* Multi-valued Attribute
* Derived Attribute
* Relationship
* Degree of a Relationship
* Binary Relationship type
* Keys
* Candidate Key
* Primary Key
* Composite Key
* Strong Entity Type
* Weak Entity Type

1. When Designing, what Issues do we need to consider?
2. When Do We Need Weak Entity Sets?

**Presentation-5**

**后4组准备10-14题的ppt**

1. What is the Enhanced Entity-Relationship Model? When Do We Need EER model?
2. Explain the following concepts.

* Superclass
* Subclass
* Specialization
* Generalization
* Aggregation

1. Rules of Mapping E-R model to tables

*How to represent entities in tables*

*How to represent relationships in tables*

(a) one-to-one (1:1) binary relationships;

(b) one-to-many (1:\*) binary relationships;

(c) one-to-many (1:\*) recursive relationships

(d) many-to-many (\*:\*) binary relationships;

1. Suppose an organization needs to manage the following information: order number, client number, client name, client address, product number, product name, product price, ordered product quantity(Quantity), order date. One client can have many order sheets and there can be many products ordered in one order sheet.

(1)Please draw E-R model

(2)Transform the above E-R model to relational data model (logical model).

1. Suppose there are two entities, i.e. Shop and Client. The attributes for Shop are shop number, name, address, Telephone number. The attributes for Client are client number, name, address, age, sex. One shop can have many clients and one client can go to many shops for shopping. There are a sum and a date in each order sheet. Each client goes shopping in one shop at most once each day.

(1)Please draw E-R model

(2)Transform the above E-R model to relational data model (logical model).