Lab4 Bazarbai Aruzhan

Task 1

a) What are the main phases in the database design? What is done on each development phase?

This is divided into three phases:

The initial phase- is to fully characterize the data needs of database users. You need to ask the client as much as possible what needs may arise and you need to take everything into account yourself.

The second phase- is the selection of the data model. Applying the concept of the selected data model, translate the requirements that were received at the initial phase into a conceptual database schema. You need to draw all this on paper and on special online sites to visually see how everything will turn out. And you need to describe the types of operations that will be performed with the data.

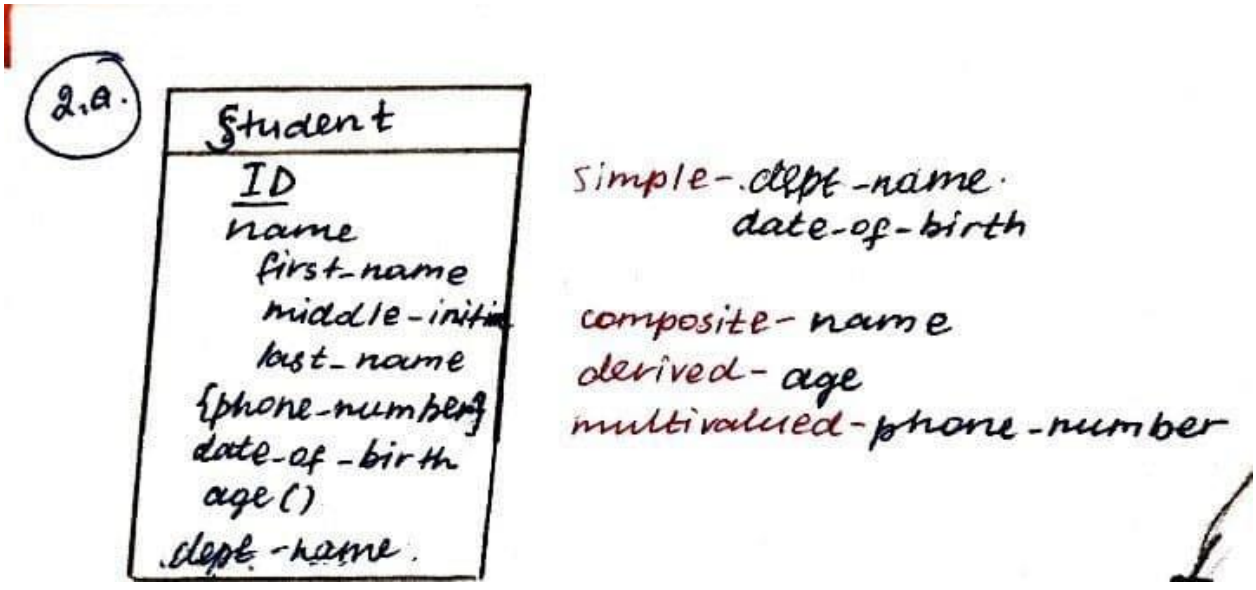
The final phase- is the transition from an abstract data model to a database implementation. Must decide which database schema we will use. We must choose the right and good design. And make the database schema such that if you need to change/add/delete something, it would be convenient.

b) What is the entity-relationship (ER) data model?

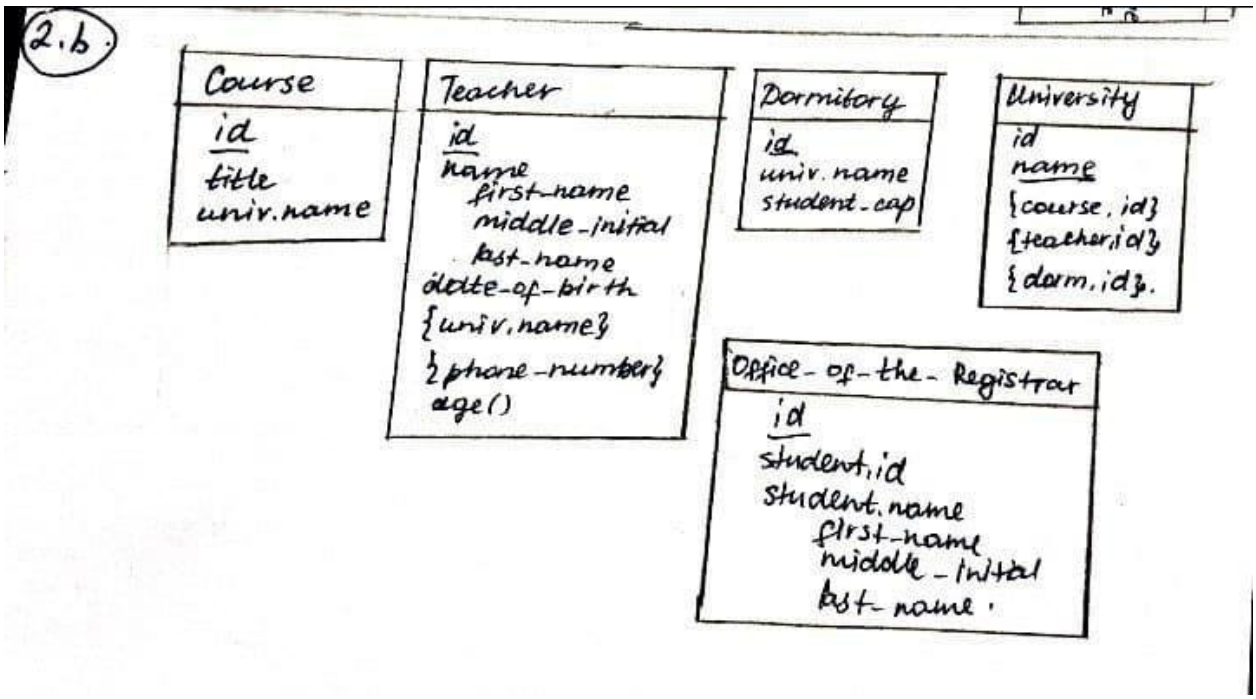
An entity–relationship model (or ER model) describes interrelated things of interest in a specific domain of knowledge. A basic ER model is composed of entity types (which classify the things of interest) and specifies relationships that can exist between entities (instances of those entity types).

Task 2

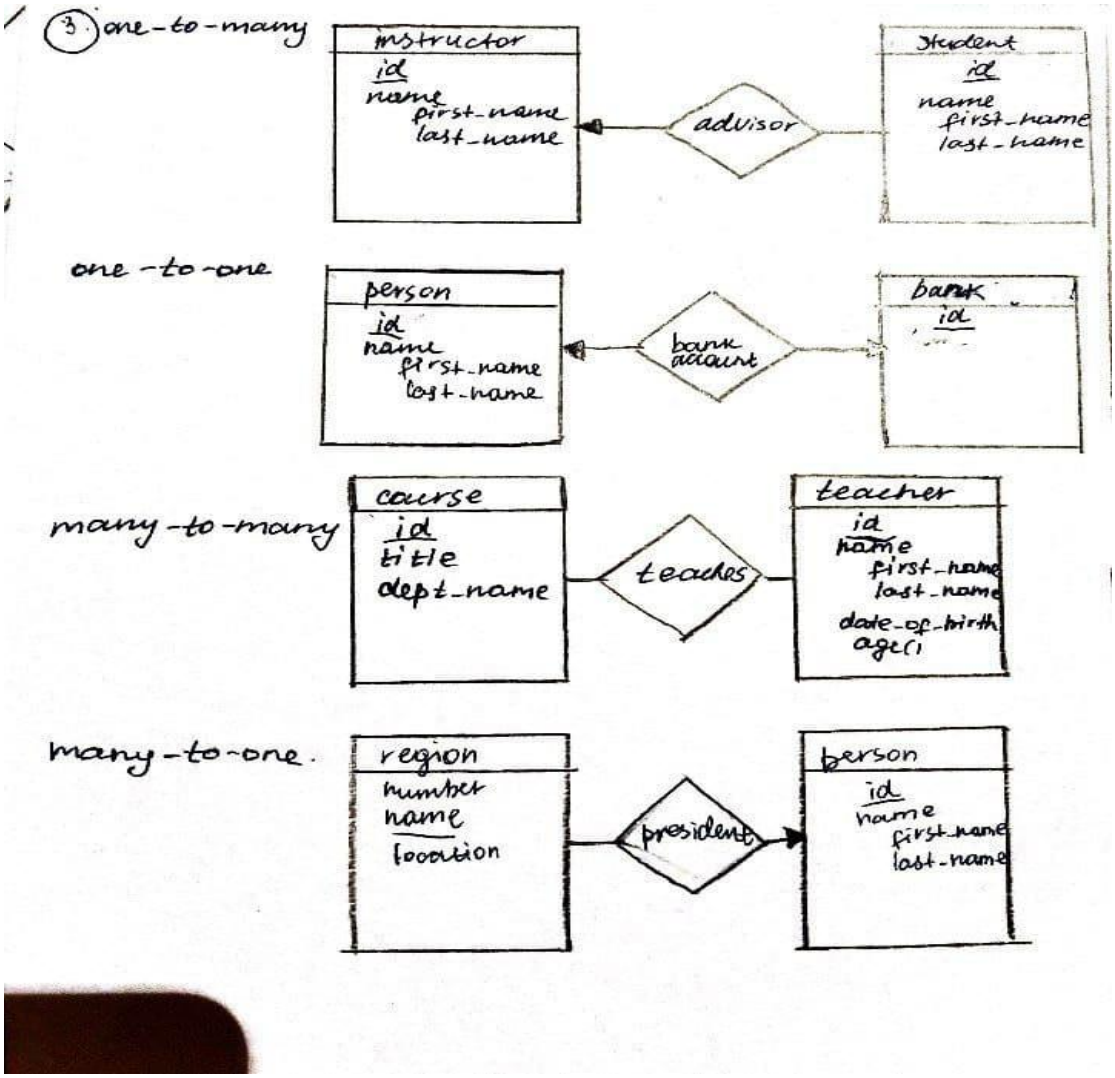
a) Create entity "Student" with at least 5 attributes (One for each type of attribute:simple, composite, derived, multivalued)



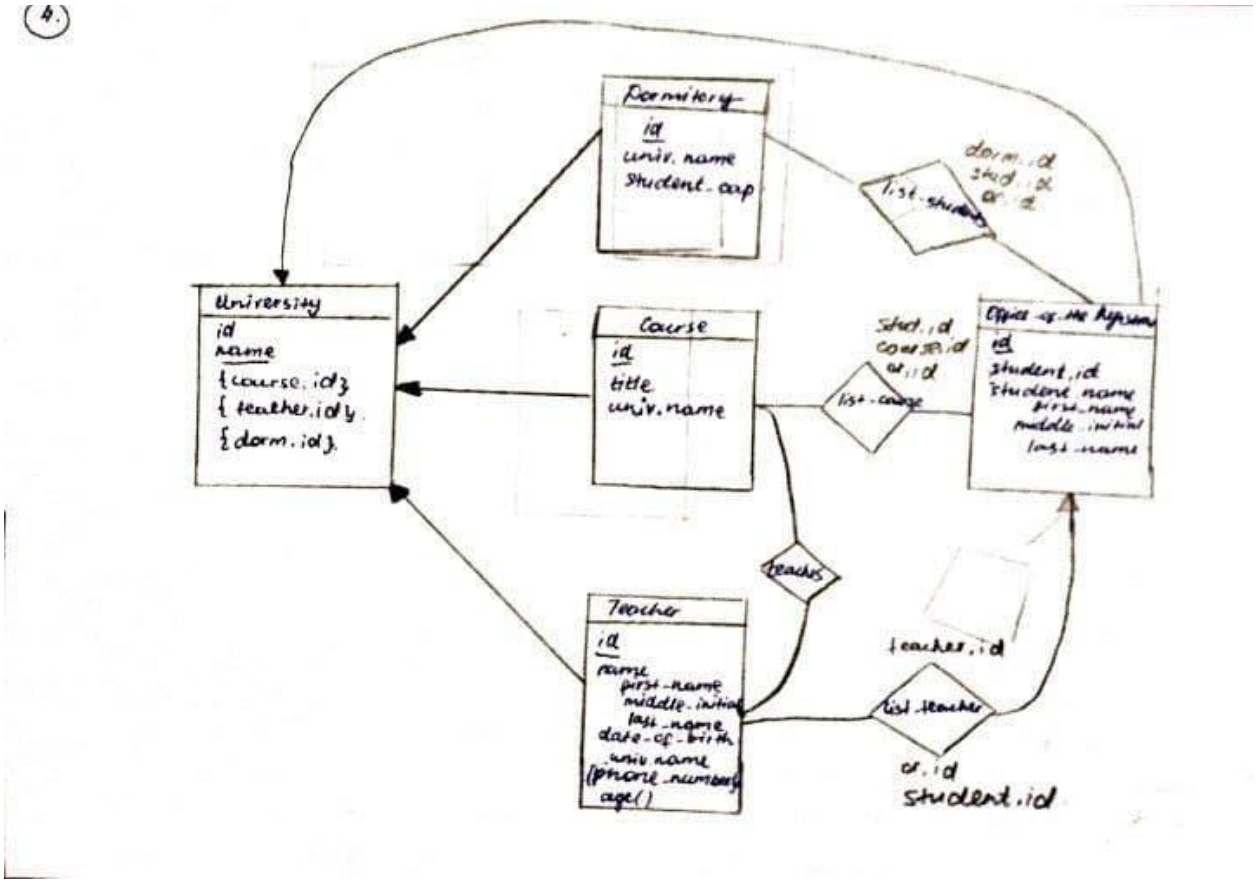
b) Create entities "University", "Course", "Dormitory", "Teacher", "Office of the Registrar" with at least 3 attributes each. (Entity types should be correct on data model)



3. Give examples for one-to-many, one-to-one, many-to-many, many-to-one relations. (Draw the examples as a scheme)



4. Create ER data model with relations using data from the second task.



5. Create ER data model for IT company. (At least 5 entities and 8 relations)