Laboratory work 4.

1.

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

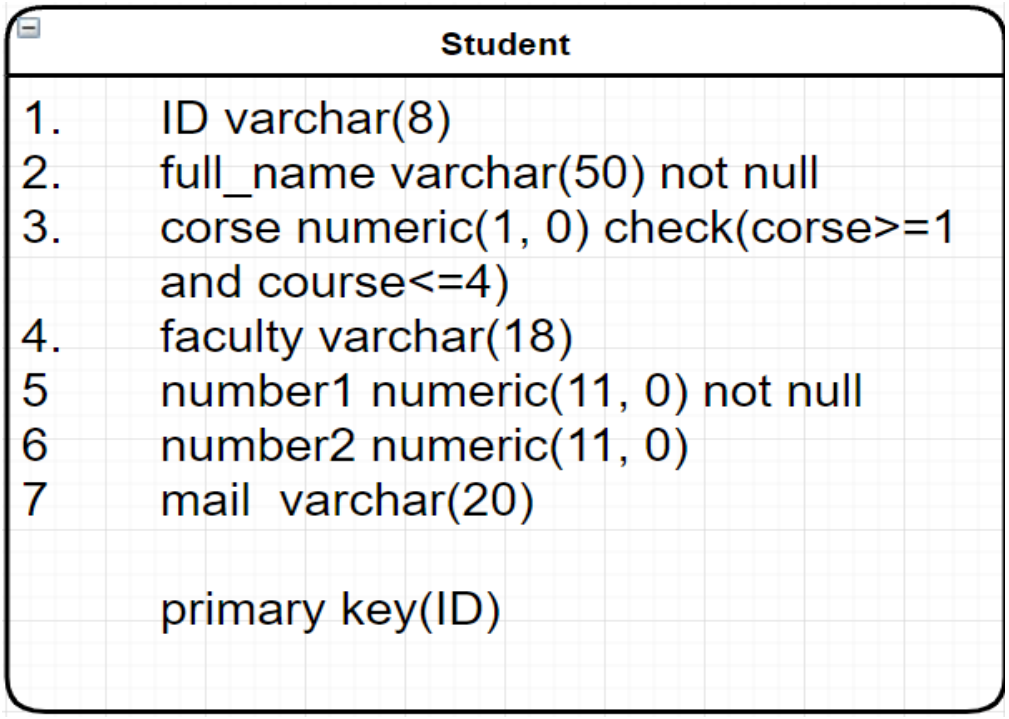
Main phases: Initial phase (Fully understand what is required from database and characterize all needs of prospective users), Second phase (Choosing a data model. Applying the concepts of the chosen data model. Create conceptual schema of the database.), Final phase (Moving from an abstract data model to the implementation of the database. Find a collection of relationship schemas that fits our case well. Deciding on the physical layout of the database).

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

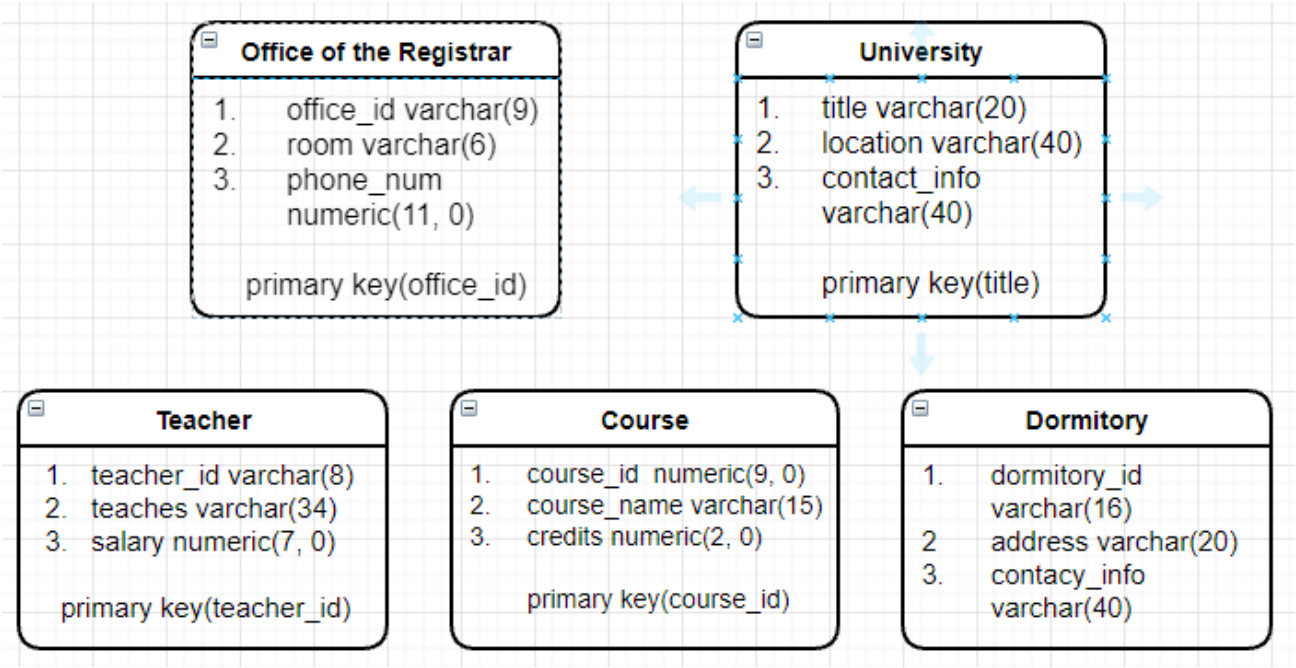
An ER model is used to represent real-world objects. Data model that defines data elements and their relationships.

2.

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

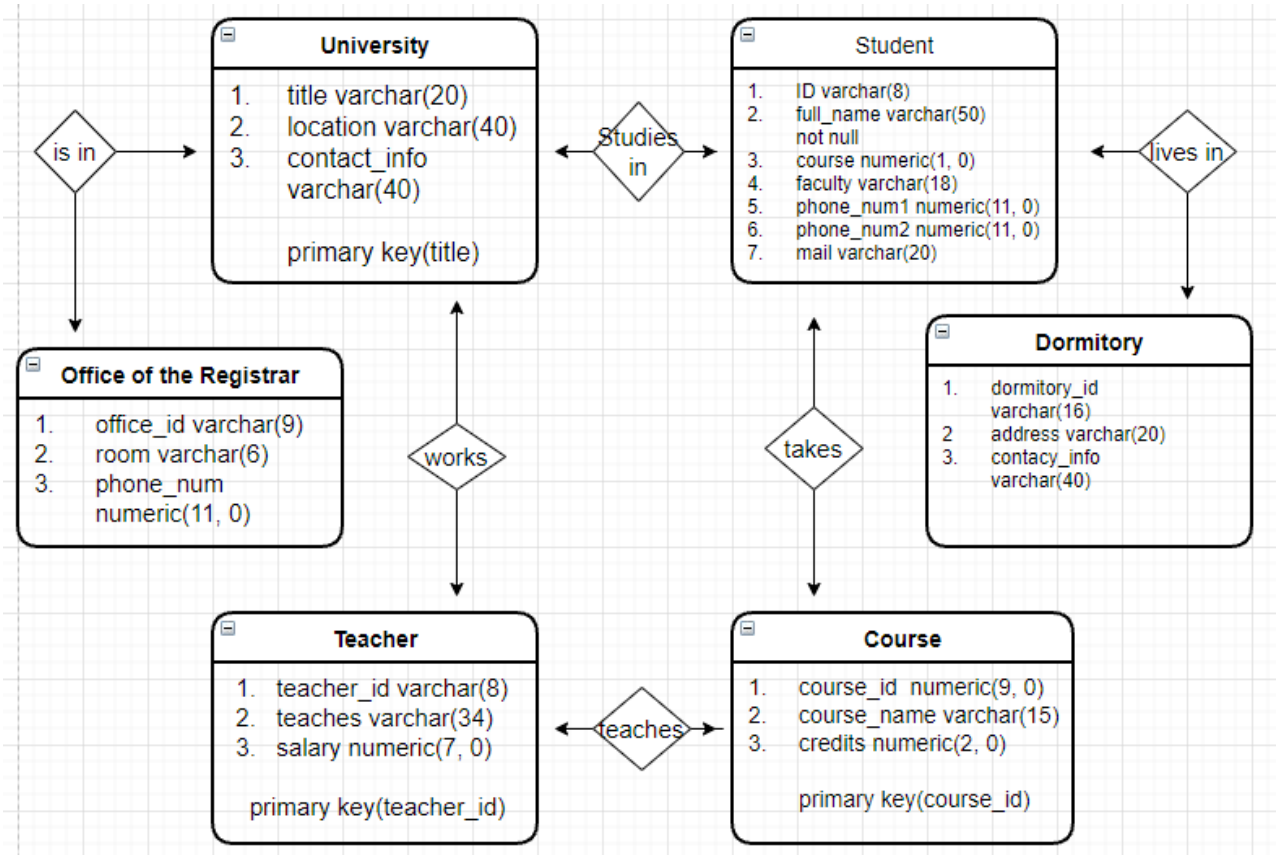


b) Create entities "University”, "Course", "Dormitory", "Teacher", "Office of the Registrar" with at least 3 attributes each. (Entity types should be correct on data model)



4.

Create an ER data model with relationships using data from the second task


University
1. title varchar(20)
2. location varchar(40)
3. contact_info varchar(40)
primary key(title)
is in
Studies in
Student
1. ID varchar(8)
2. full_name varchar(50) not null
3. course numeric(1, 0)
4. faculty varchar(18)
5. phone_num1 numeric(11, 0)
6. phone_num2 numeric(11, 0)
7. mail varchar(20)
lives in
Office of the Registrar
1. office_id varchar(9)
2. room varchar(6)
3. phone_num numeric(11, 0)
works
takes
Dormitory
1. dormitory_id varchar(16)
2 address varchar(20)
3. contacy_info varchar(40)
Teacher
1. teacher_id varchar(8)
2. teaches varchar(34)
3. salary numeric(7, 0)
primary key(teacher_id)
teaches
Course
1. course_id numeric(9, 0)
2. course_name varchar(15)
3. credits numeric(2, 0)
primary key(course_id)