- 1. a) initial phase characterize fully the data needs of the prospective database users, second phase choosing a data model (the designer chooses a data model and, by applying the concepts of the chosen data model, translates these requirements into a conceptual schema of the database), implementation of the database(logical design(Deciding on the database schema) and physical design(Deciding on the physical layout of the database))
- b) The entity-relationship (E-R) data model was developed to facilitate database design by allowing specification of an enterprise schema that represents the overall logical structure of a database.

2. a) Student ID name last_name middle_name first_name date_of_birth age() {phone_number}

2. b)

University

name
address
location
city

Course_id title credits prereq_id

Dormitory

student_id
room
address

ID name dept_name salary

Office of the registrar

course_id
instructor_id
student_id
time
room
year
semester

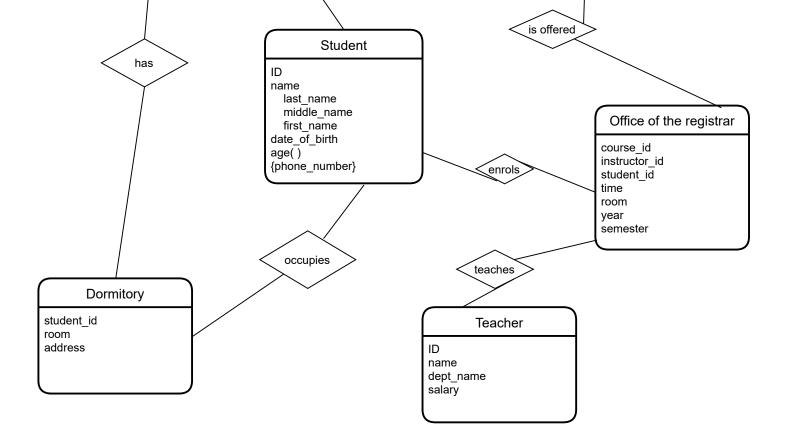
University

name address location city

has

Course course_id title credits prereq_id

prereq_id



5.

