

## Task 1

### 1) Main phases of database design:

1.1) Initial phase – determine all the data that needs to be in user's future database.

1.2) Second phase – select a data model.

- Use the concept of selected data model
- Imagine the requirements in the schema of database
- Developed schema satisfies the needed functional of the enterprise

1.3) Final phase – from abstract data model creating the database

- Logical Design – Deciding on the database schema.

▪ Database design requires that we find a “good” collection of relation schemas.

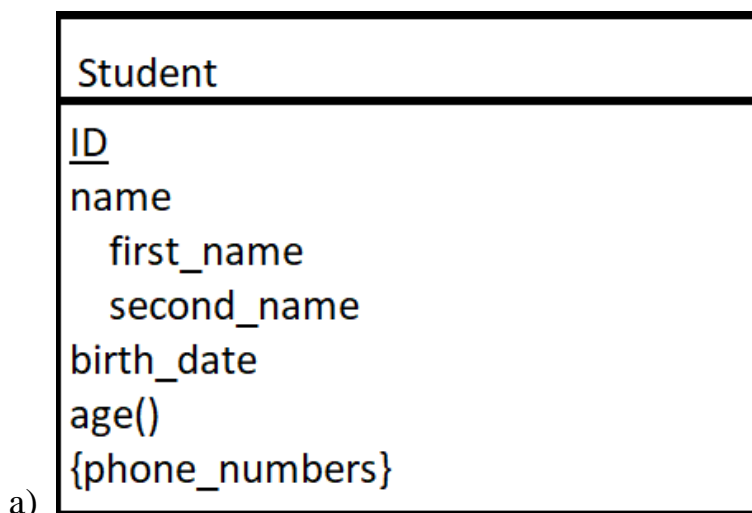
▪ Business decision – What attributes should we record in the database?

▪ Computer Science decision – What relation schemas should we have and how should the attributes be distributed among the various relation schemas?

- Physical design - deciding on the physical layout of the database

2) Entity Relationship Model - models an enterprise as a collection of entities and relationships

## Task 2

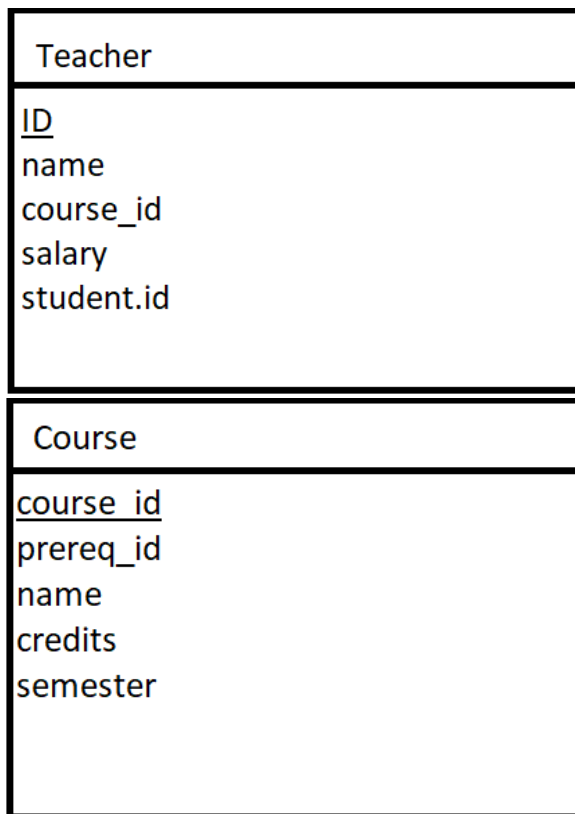


b)

University
<u>ID</u> {departments} {buildings} has_dormitory budget

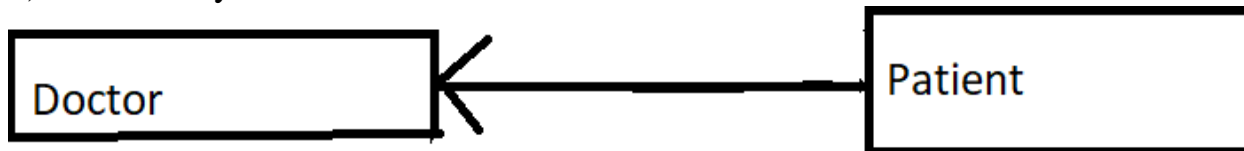
Dormitory
<u>ID</u> address capacity {buildings}

Office of the Registrar
<u>room_id</u> number_of_workers work_days work_hours {phone_numbers}

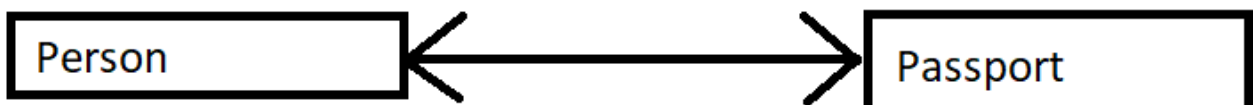


### Task 3

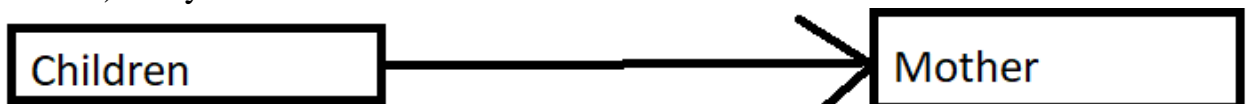
1) One to many



2) One to one



3) Many to one



Task 4

