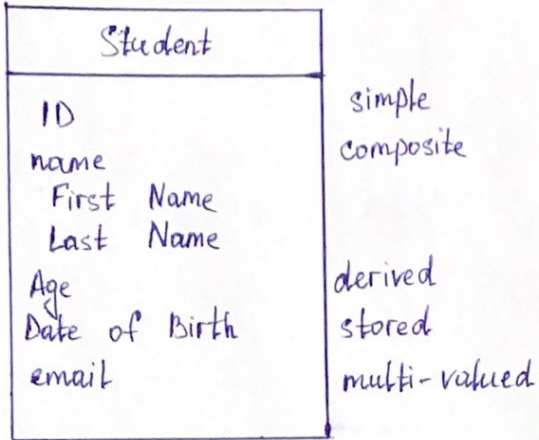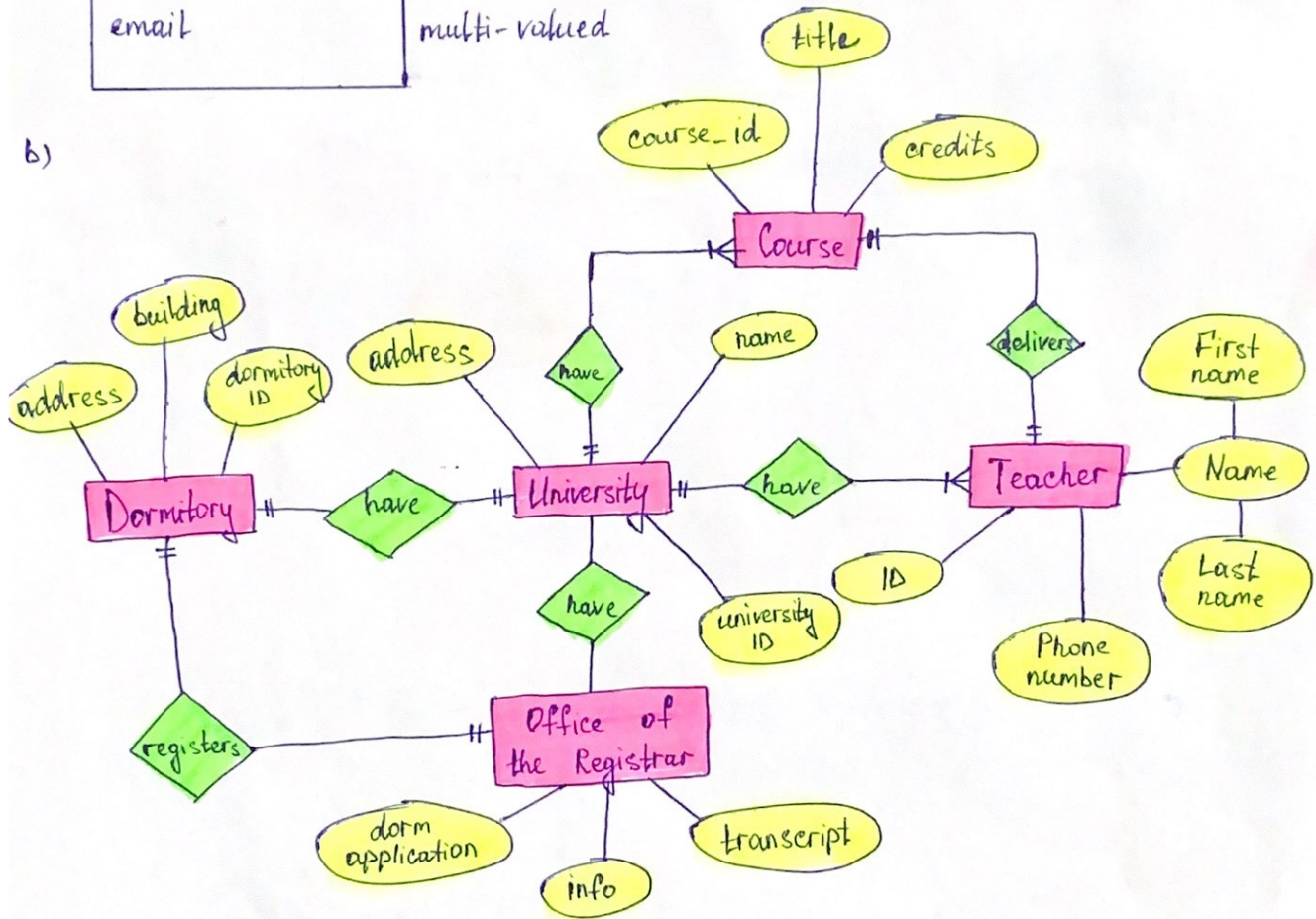N1.

a) Entity Identification → Relationship Identification → Cardinality Identification →
→ Identify Attributes → Create ERD.

b) ER Model stands for Entity Relationship Model is a high-level
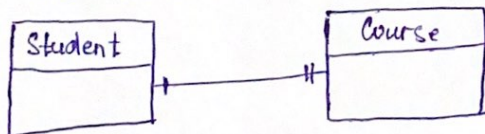conceptual data model diagram.

a)

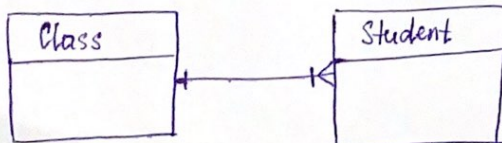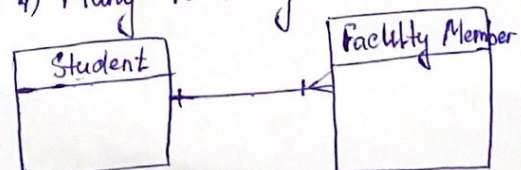| Student |
| --- |
| ID |
| name |
| First Name |
| Last Name |
| Age |
| Date of Birth |
| email |

simple
composite

derived
stored
multi-valued

b)



title
course_id
credits
Course

building
address
dormitory ID
address
name
have
First name
delivers
Dormitory — have — University — have — Teacher
Name
ID
university ID
Last name
have
Phone number

registers
Office of the Registrar

dorm application
info
transcript

N3.

1) One - to - one

| Student | | Course |
| --- | --- | --- |

3) Many - to - one

| Student | | Class |
| --- | --- | --- |

2) One - to - many

| Class | | Student |
| --- | --- | --- |

4) Many - to - many

| Student | | Faculty Member |
| --- | --- | --- |

ID

email

Student

name

First name

Last name

Date of Birth

Age

address

name

d-name

number of employees

director

company

has

department

gender

First name

has

employed

assigned to

name

manages

project

name

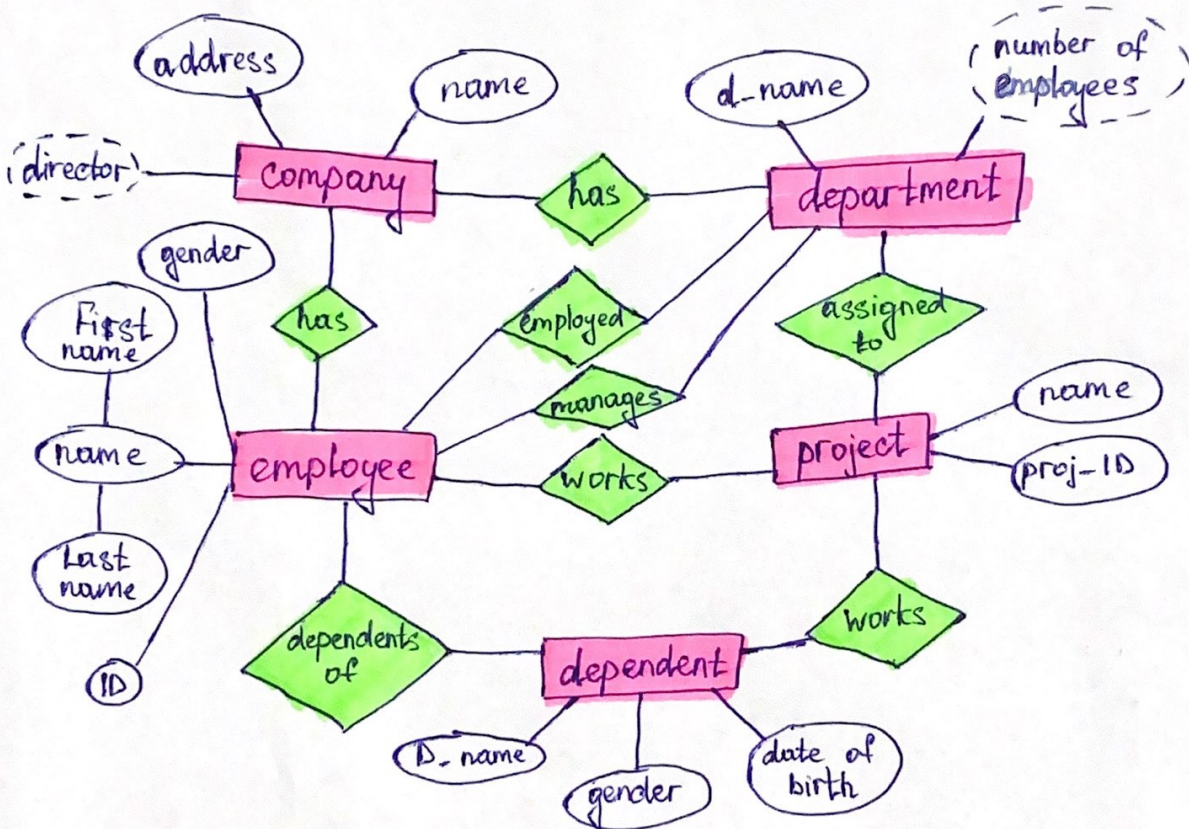employee

works

proj-ID

Last name

ID

dependents of

dependent

works

D-name

gender

date of birth

5 entities and 8 relations :)