

Name:

Group:



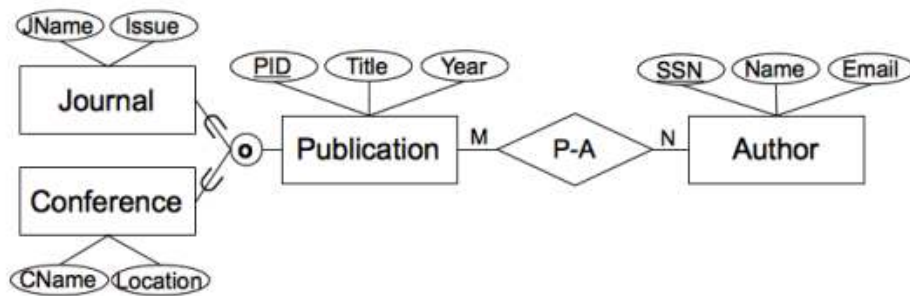
Midterm Exam

Database 2

Exam Duration: 2 hours

Question 1: Schema Mapping Techniques

Consider the following EER diagram for a simple Library database:



A. **Map** the above EER model until Step 7 only. (Don't forget to show the key references).

B. You have studied multiple options for mapping the relation Publication/Journal and Publication/Conference. For **each** option, **state** if it is possible or not. If it is possible **apply it to your mapping**. If not possible **justify** why is not possible.

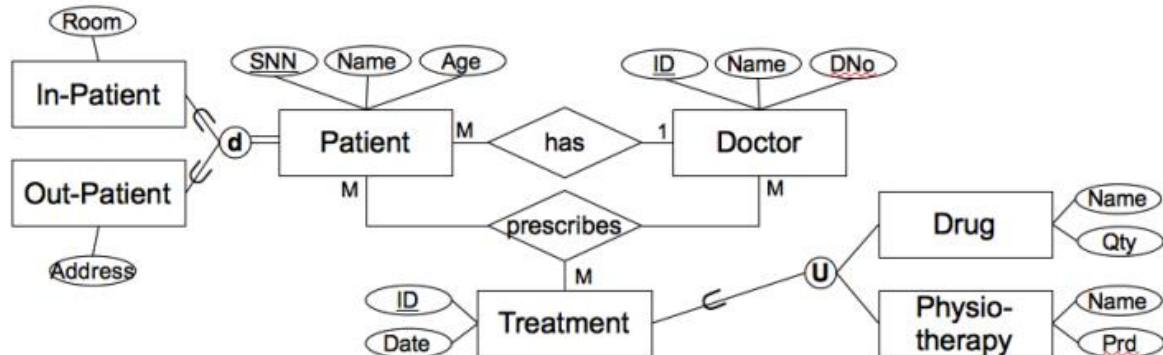
C. Mapping the EER categories (union type) in the EER diagram to relations (step 9):

Question 2: Translate the following SQL into relational algebra:

- SELECT S.sname
FROM Student S
WHERE S.snum NOT IN (SELECT E.snum FROM Enrolled E)

Question 3:

Consider the following ER diagram of HEALTH_CENTRE database:



Choose the correct answer(s):

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1. The relationship between Drug and Treatment is:
 - a. Union
 - b. Superclass/subclass
 - c. One-to-Many
 - d. No relationship
2. In-Patient attributes are:
 - a. (Room)
 - b. (SNN, Name, Age)
 - c. (SNN, Name, Age, Address)
 - d. None of the above
3. The relation between the relations (In-patient, Out-Patient) and (Patient) is:
 - a. Generalization
 - b. Specialization
 - c. Abstraction
 - d. None of the above