

CSCI 3423 - Database Management

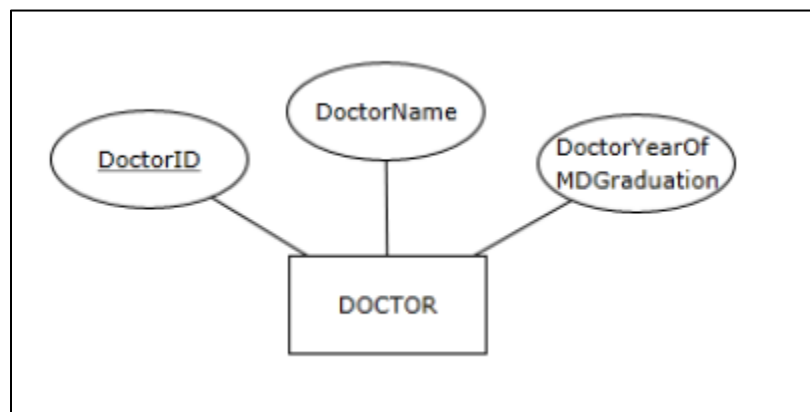
Lab 4

Important Notes:

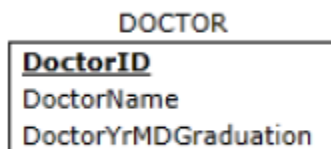
- For any of the questions in this lab that require drawing a diagram or populating tables. You can use Microsoft Word to draw these diagrams; there are also other freely available online tools.
- How to copy your diagram/tables records into the answer sheet? After you finish the diagram, use any snipping tool to **ONLY** capture the part of your screen that shows the diagram.
- **DO NOT** use the print screen button on your keyboard to take a screenshot of the entire screen.
- Snipping tools:
 - Windows OS: https://www.youtube.com/watch?v=O_55eg00H-w
 - Mac: use Command + Shift + 4
- All the answers should be placed in the provided answers sheet (can be downloaded on Canvas)
- This is an individual assignment (i.e. **group work will be assigned a grade of zero**)

Question 1: Mapping entity into relation (**Answer of the first question is provided as an example**).

a) Map the entity below into a relation



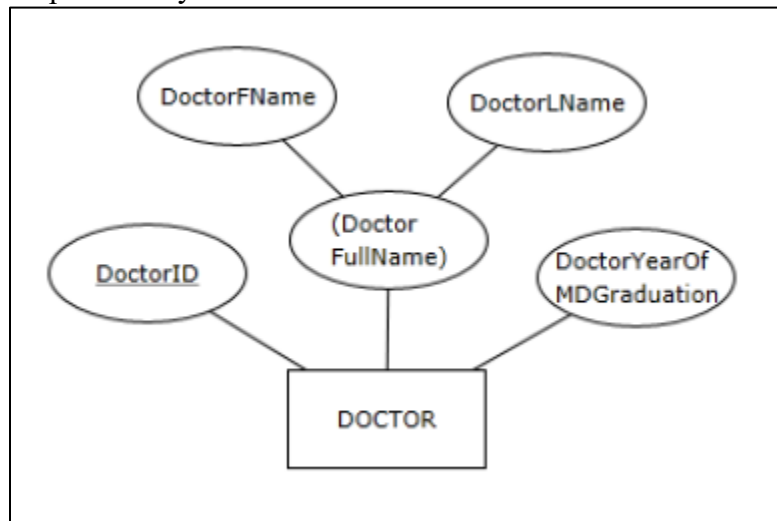
Answer:



b) Populate the relation from the previous question with 5 records.

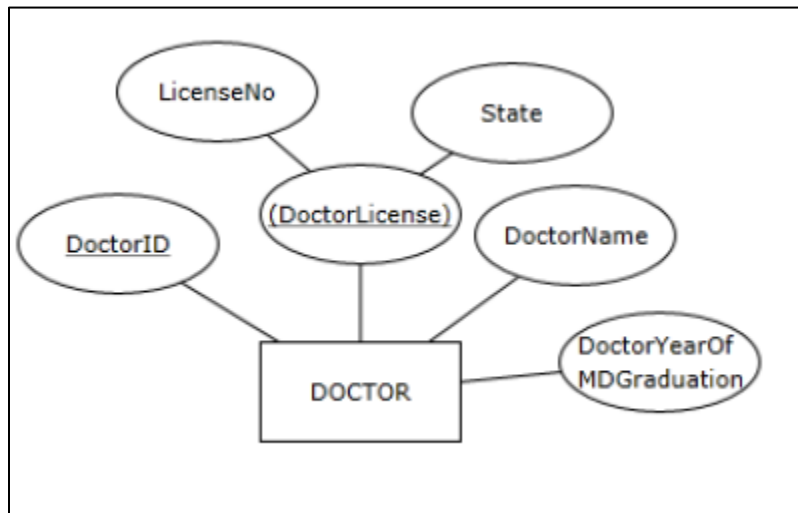
DOCTOR		
<u>DoctorID</u>	DoctorName	DoctorYrMDGraduation
111	John Doe	2002
222	Jane Smith	2009
333	Fred Williams	2001
444	Sarah Jones	2009
555	Emily Kelly	2008

c) Map the entity below into a relation

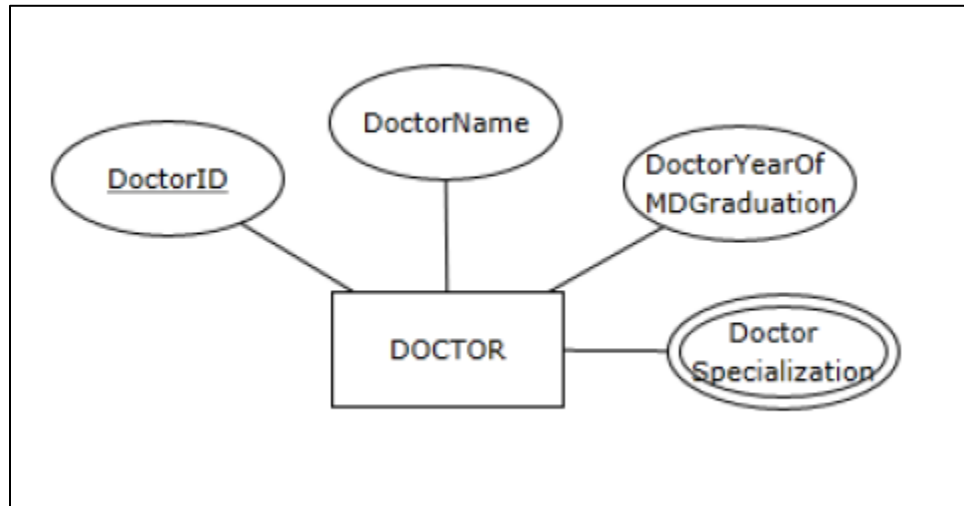


d) Populate the relation from the previous question with 5 records.

e) Map the entity below into a relation

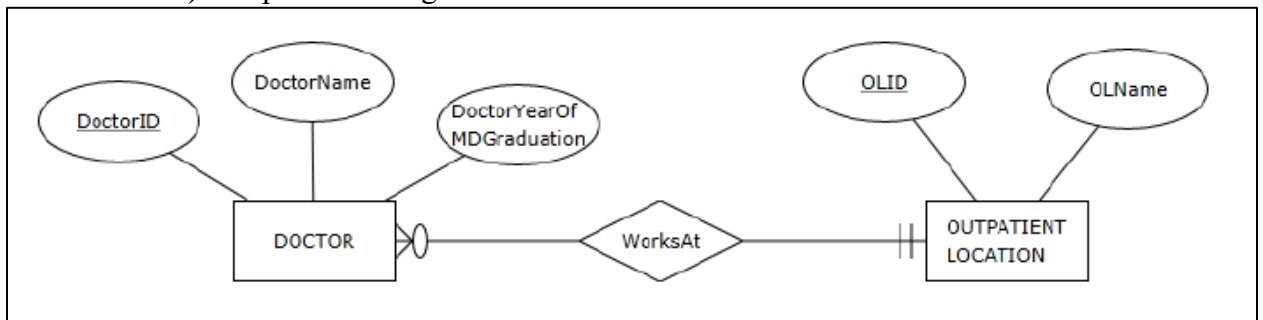


- f) Populate the relation from the previous question with 5 records.
- g) Map the entity below into a relation

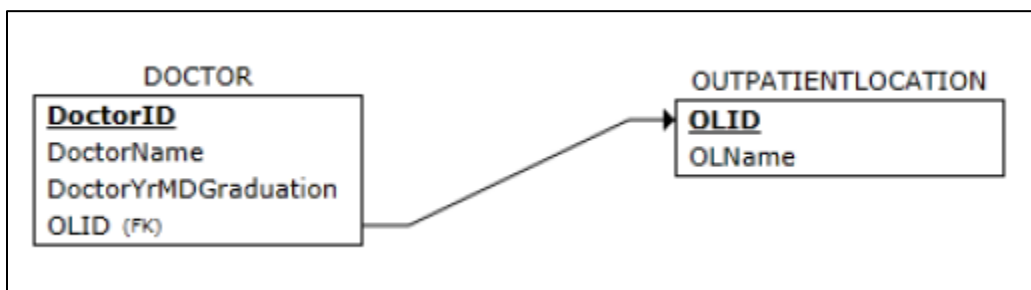


Question 2: Mapping ER diagram into relational schema. (Answer of the first question is provided as an example).

- a) Map the ER diagram below into a relational schema.



Answer:



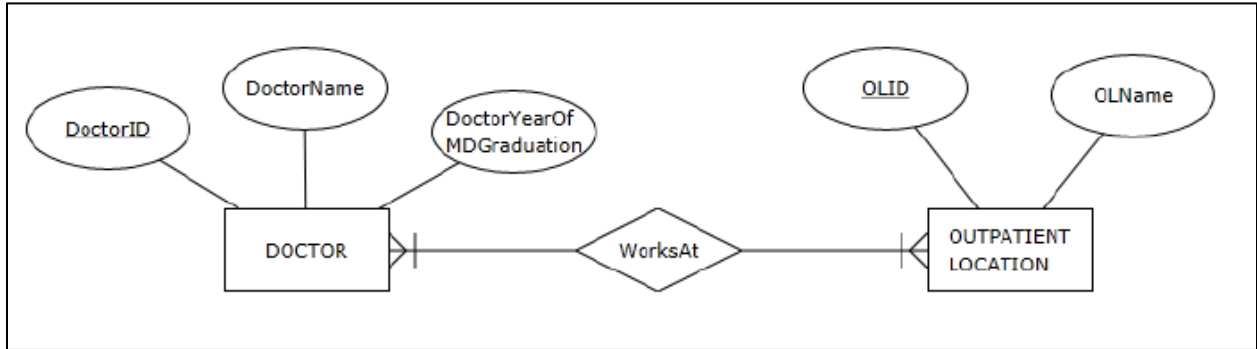
- b) Explain how you did the mapping in the previous question based on the mapping rules stated in the material.

Answer:

In the ER diagram, the DOCTOR is an entity; it is mapped as the DOCTOR relation. DoctorID, DoctorName and DoctorYearOfMDGraduation are attributes of the DOCTOR entity, they are mapped as columns in the DOCTOR relation. DoctorID is underlined; it is mapped as primary key in the DOCTOR

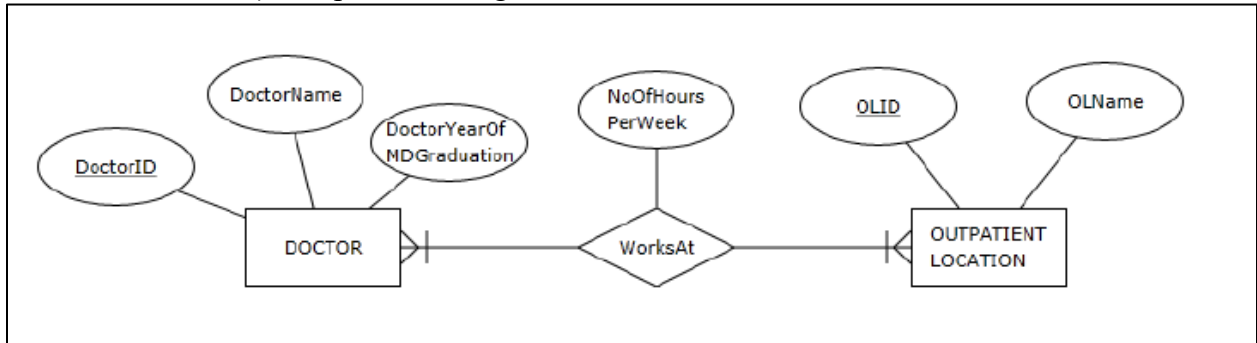
relation. OUTPATIENTLOCATION is an entity, it is mapped as the OUTPATIENTLOCATION relation. OLID and OLName are attributes of the OUTPATIENTLOCATION entity, they are mapped as columns in the OUTPATIENTLOCATION relation. OLID is underlined; it is mapped as primary key in the OUTPATIENTLOCATION relation. The 1:M relationship “WorksAt” is mapped by using the OLID as a foreign key in the DOCTOR relation.

c) Map the ER diagram below into a relational schema.



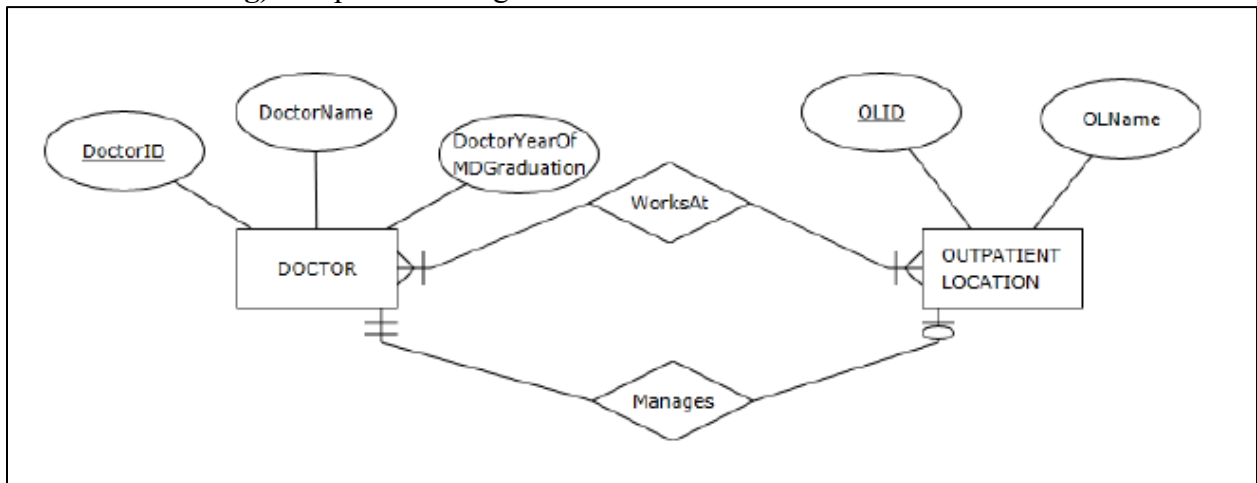
d) Explain how you did the mapping in the previous question based on the mapping rules stated in the material.

e) Map the ER diagram below into a relational schema.



f) Explain how you did the mapping in the previous question based on the mapping rules stated in the material.

g) Map the ER diagram below into a relational schema.



- h)** Explain how you did the mapping in the previous question based on the mapping rules stated in the material.