Assignment 1 Database Systems

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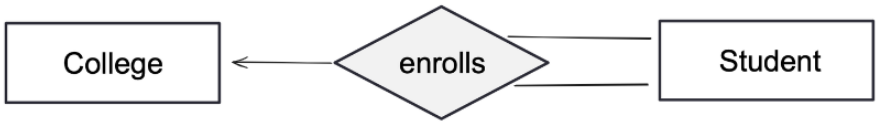
1. Indicate the correct cardinality and participation (single or double line) by drawing on the following incomplete ER-diagrams based on the given description

A student enrolls in at least and at most one college.



A customer can purchase several (possibly 0) train tickets.

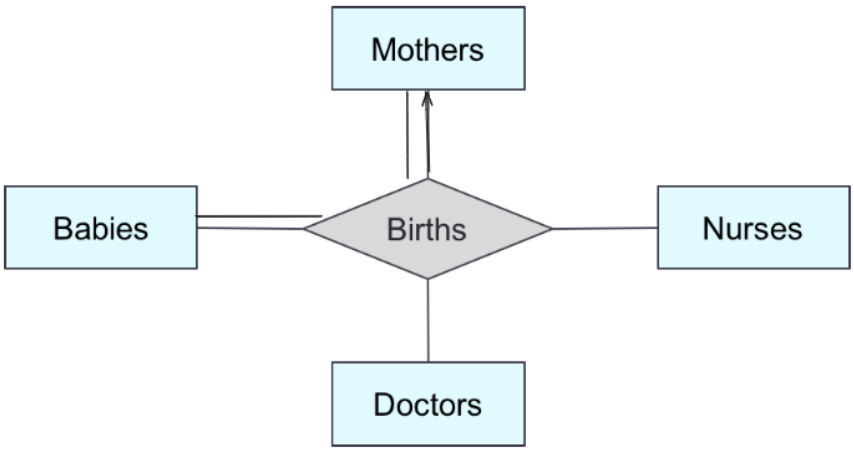
2. The following E-R diagram describes births for the hospital database.

Assumptions:

- For every baby, there is a unique mother.
- For every combination of a baby, nurse, and doctor, there is a unique mother.
- A birth can be done without any doctors or nurses (otherwise double lines between Doctors and Births and Nurses and Births).

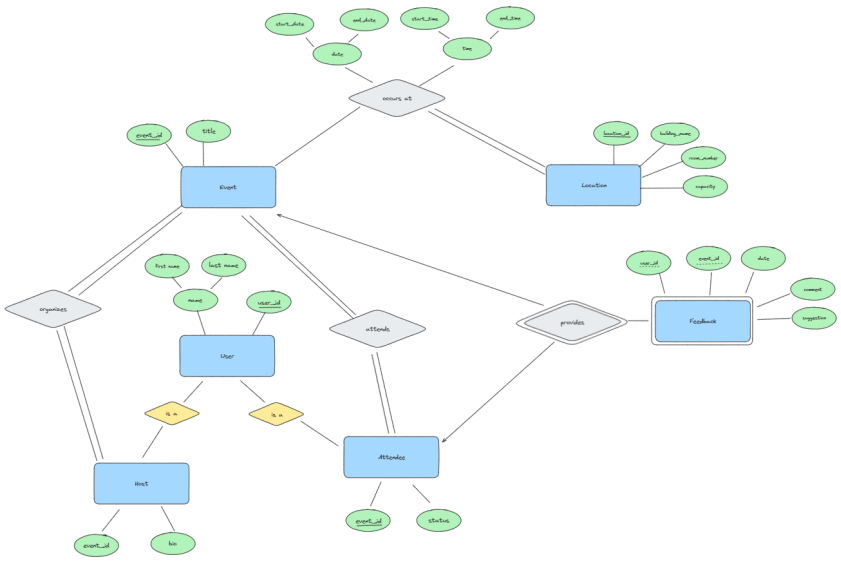
Changes:

- Total participation from Babies to Births event. Every baby must have at least one mother.
- Arrow to Mothers, every (Baby, Doctor, and Nurse) pair can have at most one unique Mother.



3. Imagine you are hired to design a Diversity, Equity, and Inclusion (DEI) platform to help the DEI committees maintain events. Here is the information that you have gathered.

E-R Diagram:



Schema Statements:

- Events(event-id, title)
- Event-Location(time-id event-id, location-id, start-date, end-date, start-time, end-time)
- Location(location-id, building-name, room-number, capacity)
- User(user-id, firstname, lastname)
- Host(user-id, event-id, bio)
- Attendee(user-id, event-id, status)
- Feedback(user-id, event-id, date, comment, suggestion)