



Practice Questions - Week 1

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Build ER Diagrams

- Identify the entities
- Identify the attributes for each entity
- Identify the primary key, derived attributes, etc.
- Identify relationship between each entity set

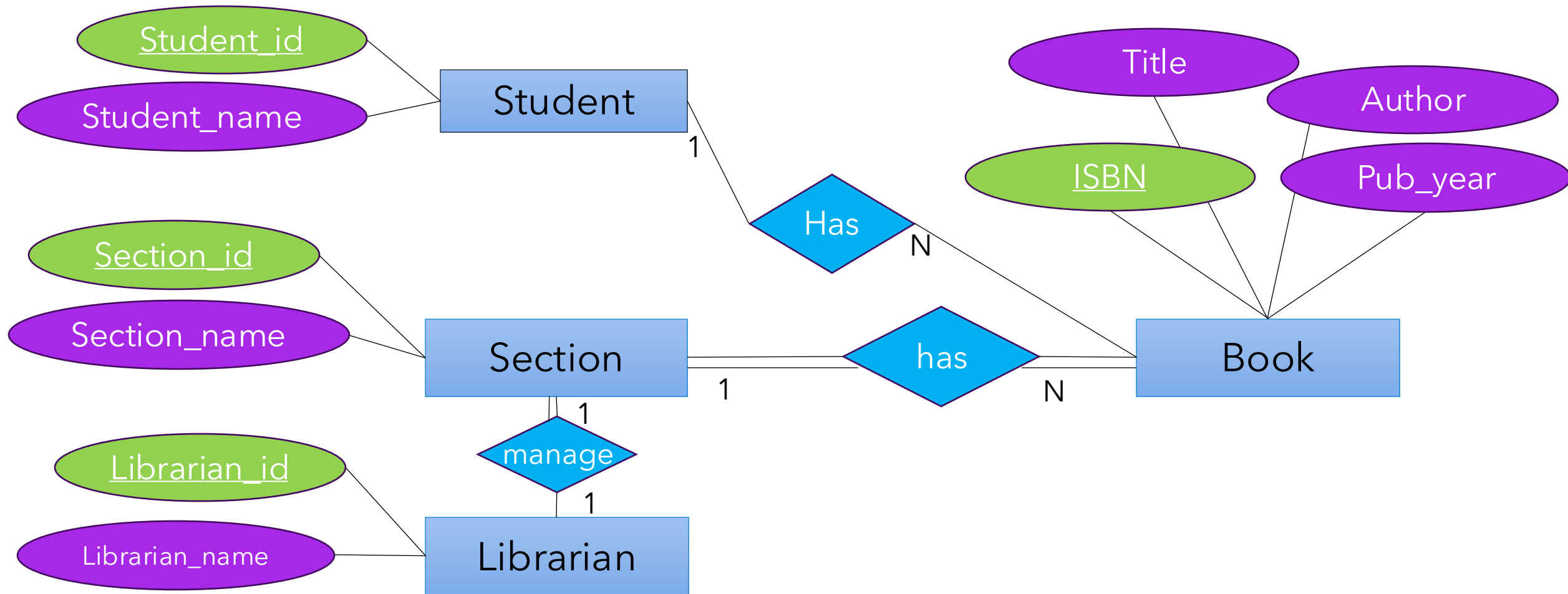
Business Requirement 1

The school library system is organized into sections, each identified by a unique section ID and name (e.g., Fiction, Science, History). Each section contains multiple books and is managed by a librarian. Books are uniquely identified by their ISBN (unique), title, author, and publication year. Librarians are identified by their name and employee ID. Each librarian is assigned to manage one section at a time. Additionally, there are students who can buy as many as books they want from library. Consider only one copy of book is available, so only one student can buy one book. Students are identified by their name and id.

Problem Statements

- The school library system has many sections, each identified by a unique section_id and name (e.g., Fiction, Science, History).
- Each section has many books and
- Books are uniquely identified by their ISBN (unique key), title, author, and publication year.
- Librarians are identified by their name and employee ID.
- Each librarian is assigned to manage one section at a time.
- Students who can buy as many as books they want from library. Consider only one copy of book is available, so only one student can buy one book.
- Students are identified by their name and student_id.

Library ER Model



Business Requirement 2

The university residence system is organized into buildings, each identified by a unique building ID and name (e.g., "Howe Hall" or "Risley Hall"). Each building has multiple rooms, and every room is uniquely identified by a room number and size(sq ft) within its residence building. Students living in residence buildings are identified by their student ID, name, and contact number. Each student is assigned to a single room at a time. Every hostel has one warden who manages it, and the warden is identified by their warden ID, name, and contact number. The date when a student moves into or out of a room must also be tracked. Students can also participate in various residence activities, such as "Cleaning Day" or "Movie Night." Each activity is identified by an activity ID, name, and date. A student can participate in multiple activities, and each activity can involve multiple students. When a student participates in any activity, there is attendance taken.

Problem Statements

- The university residence system has many buildings, each identified by a unique building ID and name (e.g., "Howe Hall" or "Risley Hall").
- Each building has multiple rooms.
- Every room is uniquely identified by a room number within its residence building.
- Students living in buildings are identified by their student ID, name, and contact number.
- More than one student can be assigned to a single room at a time.
- Every hostel has one warden who manages it, and the warden is identified by their warden ID, name, and contact number.
- The date when a student moves into or out of a room must also be tracked.
- A student can participate in many activities, and each activity can involve multiple students. When a student participates in any activity, there is attendance taken.

Residence ER Model

