Question 1:

Draw an **ER Diagram** for a **Library Management System** considering the following requirements:

1. The system has **Books**, each identified by a **Book_ID**. A book has a **Title**, **Author**, and **Publisher**.
2. **Students** can borrow books. Each student has a **Student_ID**, **Name**, and **Course**.
3. A student can borrow multiple books, but a book can be issued to only one student at a time.
4. The **Issue_Record** keeps track of the book borrowing details. It includes **Issue_ID**, **Issue_Date**, and **Return_Date**.
5. If a book is lost, a **Fine** is imposed on the student.

Question 2:

Suppose you are given the following requirements for a simple database for the National

Hockey League (NHL):

1. the NHL has many teams,
2. each team has a name, a city, a coach, a captain, and a set of players,
3. each player belongs to only one team,
4. each player has a name, a position (such as left wing or goalie), a skill level, and a set
5. of injury records,
6. a team captain is also a player,
7. a game is played between two teams (referred to as host_team and guest_team) and has a date (such as May 11th, 1999) and a score (such as 4 to 2).

Construct a clean and concise ER diagram for the NHL database

Question 3:

A university registrar's office maintains data about the following entities:

1. **courses**, including number, title, credits, syllabus, and prerequisites;
2. **course offerings**, including course number, year, semester, section number, instructor(s), timings, and classroom;
3. **students**, including student-id, name, and program;
4. **instructors,** including identification number, name, department, and title.

Further, the enrolment of students in courses and grades awarded to students in each course they are enrolled for must be appropriately modelled.

Construct an E-R diagram for the registrar's office