Quiz 3: E-R to Relational Translation

Initial Score (out of 10)

Taken by: _____________________________________________
Name

Student ID

- We will discuss the answers right after the quiz.
- You are to self-grade and record your actual initial score (above) as we do so.
- You should also record the correct answers for any problems that you miss.
- A full 10 points for taking this quiz will be included as part of your quiz grade.

Translate the following E-R schema into an appropriate set of relational tables and circle around the rules from this E-R model that cannot be captured using the suggested tables.

CREATE TABLE Athlete (  
    ssno char(9),  
    first_name varchar(30) NOT NULL,  
    last_name varchar(30) NOT NULL,  
    PRIMARY KEY(ssno));

CREATE TABLE Interest (  
    ssno char(9),  
    interest varchar(20),

Coach and Student COVER Athlete.

By default, Coach and Student do not overlap, however, current table design is not able to capture this rule.
CREATE TABLE Coach (  
ssno char(9),  
since char(4) NULL,  
fee DECIMAL(6,2) NOT NULL,  
license char(20) NOT NULL,  
UNIQUE(license),  
PRIMARY KEY(ssno),  
FOREIGN KEY(ssno) REFERENCES Athlete(ssno) ON DELETE CASCADE);  

CREATE TABLE Student (  
ssno char(9),  
PRIMARY KEY(ssno),  
FOREIGN KEY(ssno) REFERENCES Athlete(ssno) ON DELETE CASCADE);  

CREATE TABLE Sport (  
sid varchar(20),  
name varchar(30) NOT NULL,  
ssno char(9) NOT NULL,  
PRIMARY KEY(sid),  
FOREIGN KEY(ssno) REFERENCES Coach(ssno) ON DELETE CASCADE);  

CREATE TABLE Plays (  
sid varchar(20),  
ssno char(9),  
PRIMARY KEY(sid,ssno),  
FOREIGN KEY(ssno) REFERENCES Athlete(ssno) ON DELETE CASCADE,  
FOREIGN KEY(sid) REFERENCES Sport(sid) ON DELETE CASCADE);  

CREATE TABLE Trains (  
ssno char(9),  
sssno char(9),  
hours INTEGER NULL,
PRIMARY KEY(cssno,sssno),
FOREIGN KEY(cssno) REFERENCES Coach(ssno)  ON DELETE CASCADE,
FOREIGN KEY(sssno) REFERENCES Student(ssno)  ON DELETE CASCADE);