CS 327E Lecture 3

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Announcements

1. New proctor

2. Request free education upgrade for your LucidChart account:
https://www.lucidchart.com/pages/usecase/education-request

3. Form teams this week and send email by **EOD Friday**:

   To: scohen@cs.utexas.edu; chenhao@utexas.edu;
   adamroach94@gmail.com

   Cc: your teammate / lab partner

   Email subject: [CS327E] [Team] [<TeamName>]

   Email should have: you and your teammate's full names, eids, email addresses, and github usernames.

   Send only one email per team.

Question 1: Which of the following should not be implemented as tables in logical database model?

A. Entities

B. Subtypes

C. One-to-many relationships

D. Many-to-many relationships

E. N-ary relationships

Question 2: We should transform all of the attributes of an entity as the column(s) of table.

A. True

B. False

Question 3: For one-to-many relationships, which side should have a foreign key referencing another side?

A. One

B. Many

C. Both side are OK

Question 4: A junction table is used to resolve many-to-many relationships.

A. True

B. False

Question 5: For many-to-many relationships, what kind of relationship will exist between the junction table and the tables that it points to?

A. One-to-one

B. Many-to-one

C. Many-to-many

D. All of the above

Logical Modeling Exercise

Concept Question 1

Why do these tables definitions cause an integrity constraint violation?

```
CREATE TABLE Chess_Player (
   player_id INTEGER PRIMARY KEY,
   first_name VARCHAR(30) NOT NULL,
   last_name VARCHAR(30) NOT NULL,
   position CHAR(1) CHECK(position in ('W', 'B'),
   school VARCHAR(30) NOT NULL CHECK(school in ('Casis', 'Bryker')
   ...)

CREATE TABLE Chess_Match (
   match_id INTEGER PRIMARY KEY,
   player_one_id INTEGER NOT NULL,
   player_one_pos CHAR(1) DEFAULT 'W' NOT NULL,
   player_two_id INTEGER NOT NULL,
   player_two_pos CHAR(1) DEFAULT 'B' NOT NULL,
   FOREIGN KEY (player_one_id, player_one_pos) REFERENCES
     ChessPlayer(player_id, position),
   FOREIGN KEY (player_two_id, player_two_pos) REFERENCES
     ChessPlayer(player_id, position))
```

A. > 1 FK on table
B. > 1 FK pointing to parent table
C. `Chess_Player.position` can be null
D. `Chess_Player.position` is not a PK