

# **EPPS 6354**

# **ASSIGNMENT 4**

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Megan Pruitt

## 1. Weak, strong entity sets

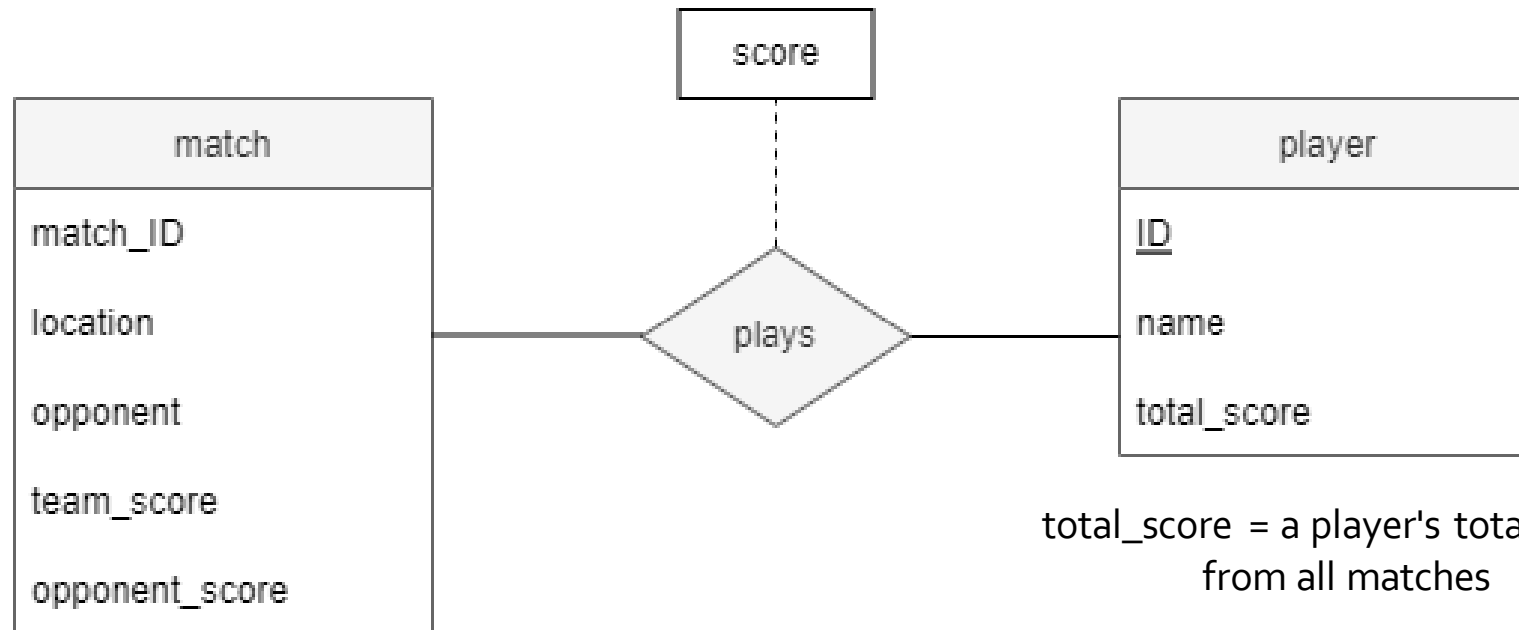
- A weak entity set does not have a primary key of its own and is dependent on another entity set.
- Entity sets that do have primary keys are strong entity sets.

For example, if a "payment" entity (including payment\_id, date, amount) for loans were added to the bank database from Assignment 2, the "payment" entity would be dependent on the "loan" entity.

This is because one payment (i.e., payment\_id) could be made on multiple loans, so there cannot be a primary key for the "payment" entity.

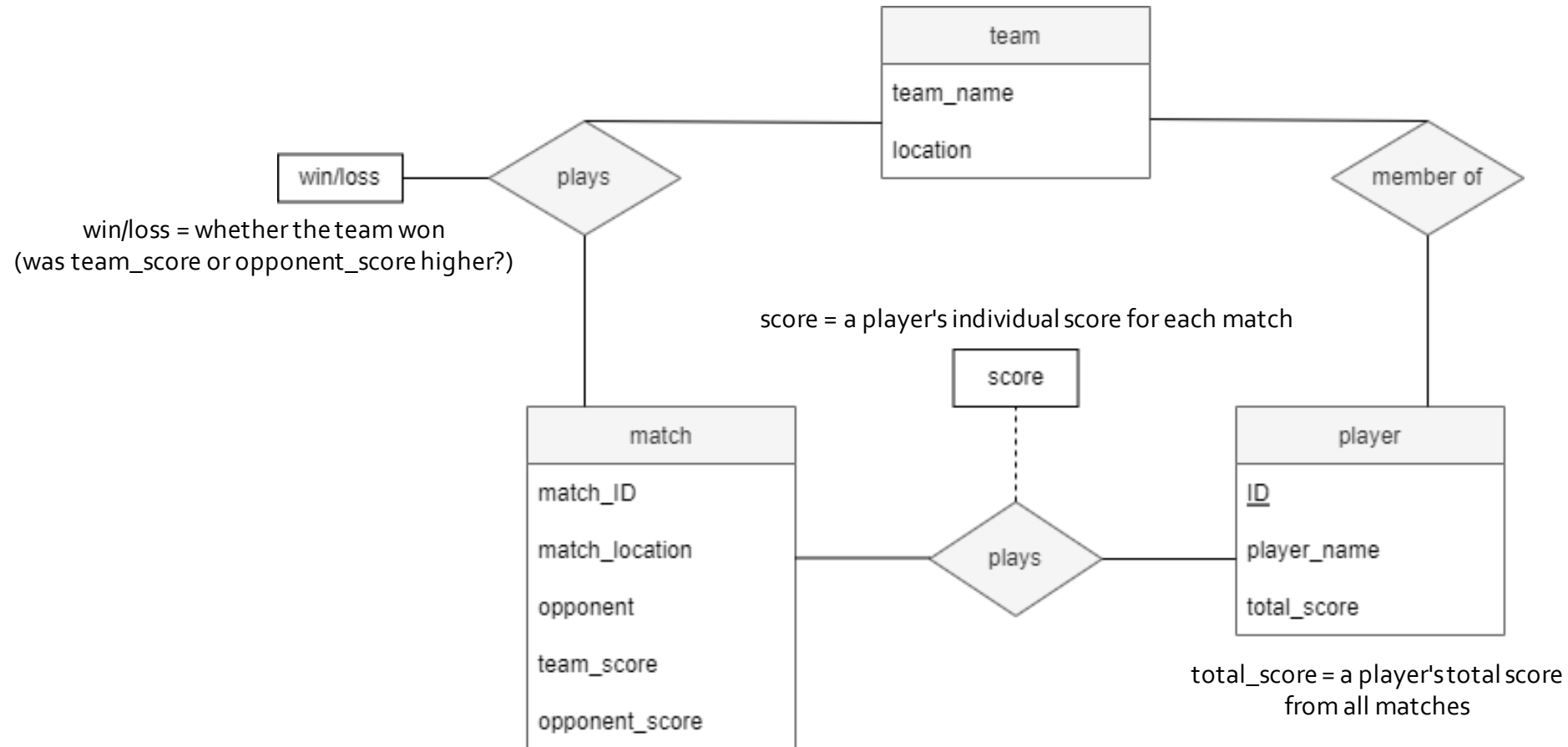
## 2a. E-R diagram for keeping track of the scoring statistics of your favorite sports team

score = a player's individual score for each match



total\_score = a player's total scores  
from all matches

## 2b. Expand to all teams in the league



3b. ID of each student who has never taken a course at the university

Enter SQL commands here

```
1 SELECT student.ID, student.name
2 FROM student
3 NATURAL LEFT OUTER JOIN takes
4 WHERE takes.id IS NULL
```

Execute

Save the db

Load an SQLite database file:

Choose File

No file chosen

ID	name
70557	Snow

3c. ID of each employee with no manager

Enter SQL commands here

```
1 SELECT employee.ID, employee.person_name
2 FROM employee
3 NATURAL LEFT OUTER JOIN manages
4 WHERE manages.id IS NULL
```