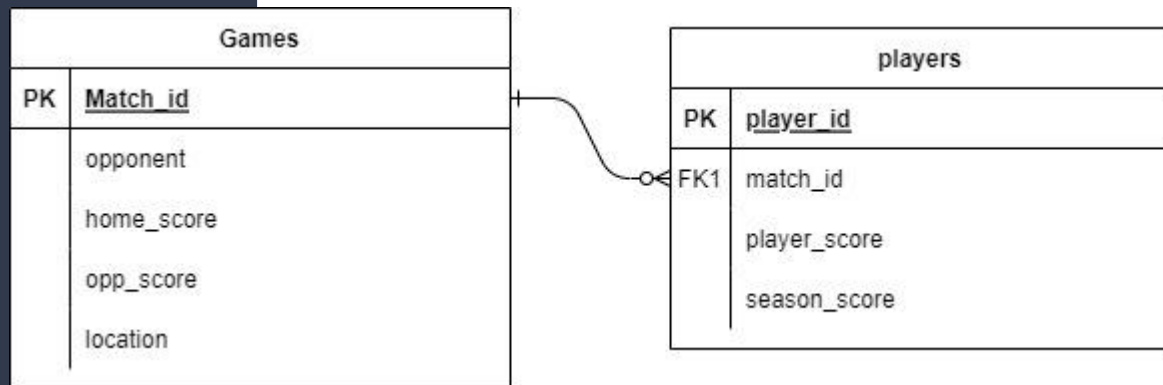# Assignment 4

Ashleigh Frank

Question 1: Difference between strong and weak entity set

Weak entity set is where an entity is dependent on another entity set (identifying entity set). Instead of using the primary key of the weak entity set, we use primary key of the identifying entity set. Extra attributes called discriminator attributes to uniquely identify weak entity set.

Example: advisor, prereq

Strong entity set can stand alone. Has unique primary key that identifies each entity in set.

Question 2

Games

PK	Match_id
	opponent
	home_score
	opp_score
	location

players

PK	player_id
FK1	match_id
	player_score
	season_score

Question 3A:

Consider the query
select course_id, semester, year, sec_id, avg (tot_cred)
from takes natural join student
where year = 2017
group by course_id, semester, year, sec_id
having count (ID) >= 2

a. Explain why appending natural join section in the from clause would not change the result.

It doesn't introduce additionally filtering or groupings.

Enter SQL commands here

```
1 select course_id, semester, year, sec_id, avg (tot_cred)
2 from takes natural join student
3 where year = 2017
4 group by course_id, semester, year, sec_id
5 having count (ID) >= 2
6
```

Execute   Save the db   Load an SQLite database file: Choose File No file chosen

course_id	semester	year	sec_id	avg (tot_cred)
CS-101	Fall	2017	1	65
CS-190	Spring	2017	2	43
CS-347	Fall	2017	1	67

Question 3B:
Write an SQL query using the university schema to find the ID of each student who has never taken a course at the university. Do this using no subqueries and no set operations
(use an outer join). (Consult Ch. 4, 4.1.3)

select student.ID from student left join takes on takes.ID = student.ID where takes.ID is NULL;