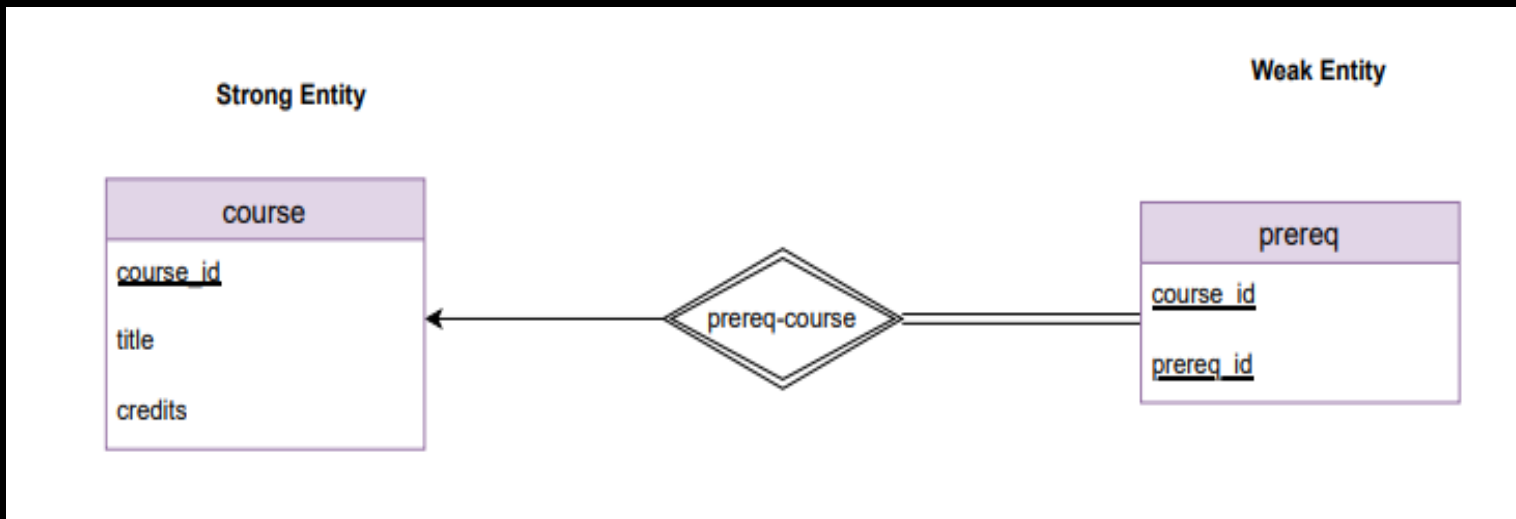# Assignment 4

Presented by:

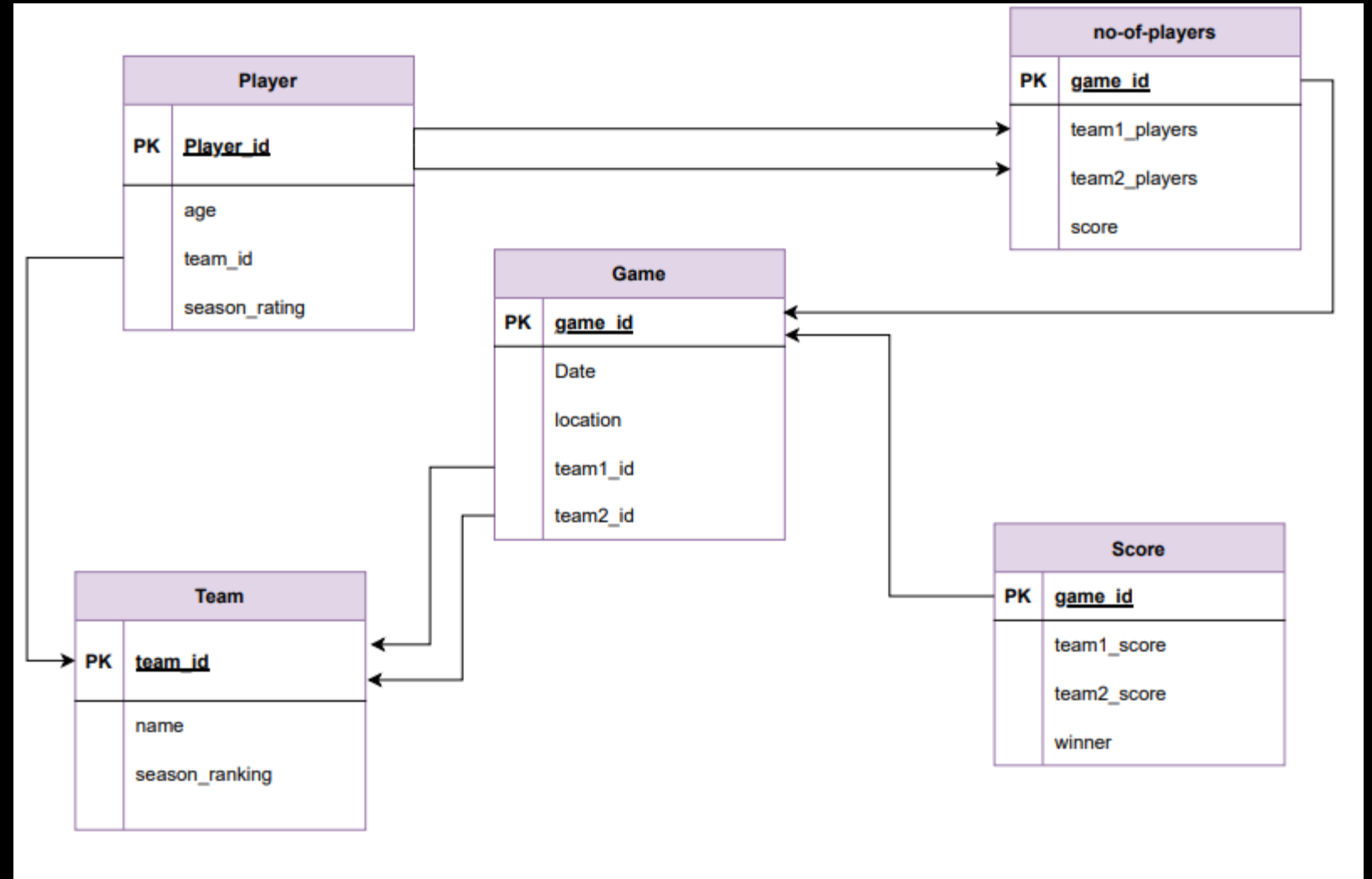Sharon Jepkosgei

EPPS 6354

Question 1

- Weak entity – Is an entity whose existence depends on another entity

- Its primary key - identifying entity + discriminator attributes

- Strong entity – Its existence do not depend on another variable

Question 2

Design an E-R diagram for keeping track of the scoring statistics of your favorite sports team.

Question 3a

- i. Explain why appending natural join *section* in the from clause would not change the result.

- The natural join between takes and student has these attributes:

(ID, name, dept_name, total credit, course_id, sec_id, semester, year, grade)

- The section relation has these attributes:

(course_id, sec_id, semester, year, building, room number)

- Natural join only considers pairs of tuples with the same value on attributes that appear in the schemas in both relations,

- Adding natural join section would require that common attributes (course_id, sec_id, semester, year) be the same; which there are.

Question 3a

ii. Test the results using the Online SQL interpreter

After
Appending
natural join
section

Online SQL interpreter

Run queries directly from the text box below; the university database schema and sample data have been preloaded. (Note: page may take a few seconds to load initially.). All query processing is done right in your browser using the SQLite database. Save the database and load it later, if you want your data to persist when you close the browser tab.
Click here for tips on using SQLite including SQL syntax variations.

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;
```

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 3a

ii. Test the results using the Online SQL interpreter

Before
Appending
natural join
section

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.

- select ID

- from student natural left outer join takes

- where course_id is null

Online SQL interpreter

Run queries directly from the text box below; the university database schema and sample data have been preloaded. (Note: page may take a few seconds to load initially.). All query processing is done right in your browser using the SQLite database. Save the database and load it later, if you want your data to persist when you close the browser tab.
Click here for tips on using SQLite including SQL syntax variations.

Enter SQL commands here

```
1 select ID
2 from student natural left outer join takes
3 where course_id is null
```

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

ID
70557

Original work by kripken (sql.js). C to Javascript compiler by kripken (emscripten). Project now maintained by lovasoa

Question 3C

Write a query to find the ID of each employee with no manager.

- Select ID

- From employee natural left outer join manages

- Where manager_id is null