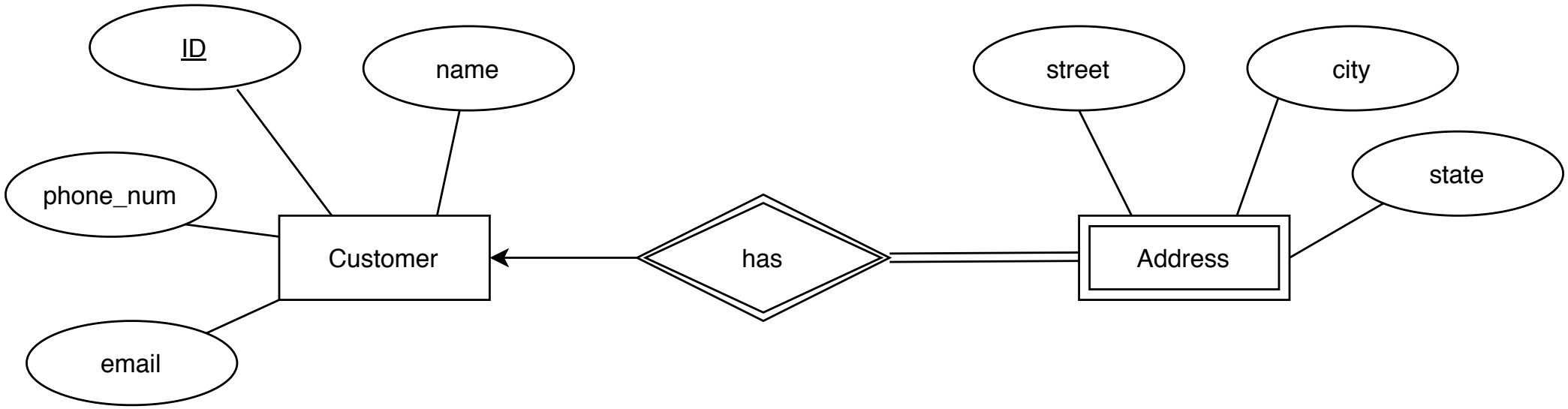
ASSIGNMENT 4

Rita Savill

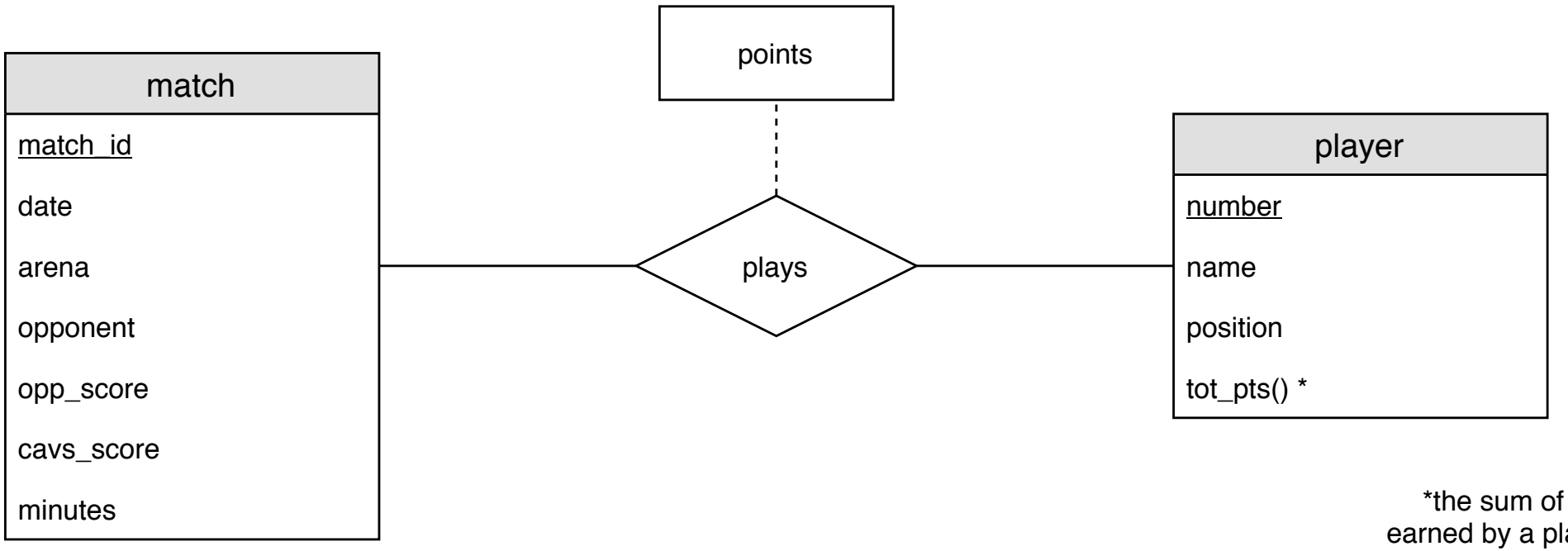
Question 1

Weak Entity Set: An entity set whose attributes do not form a primary key. A weak entity set is dependent on an identifying set (a strong entity set).

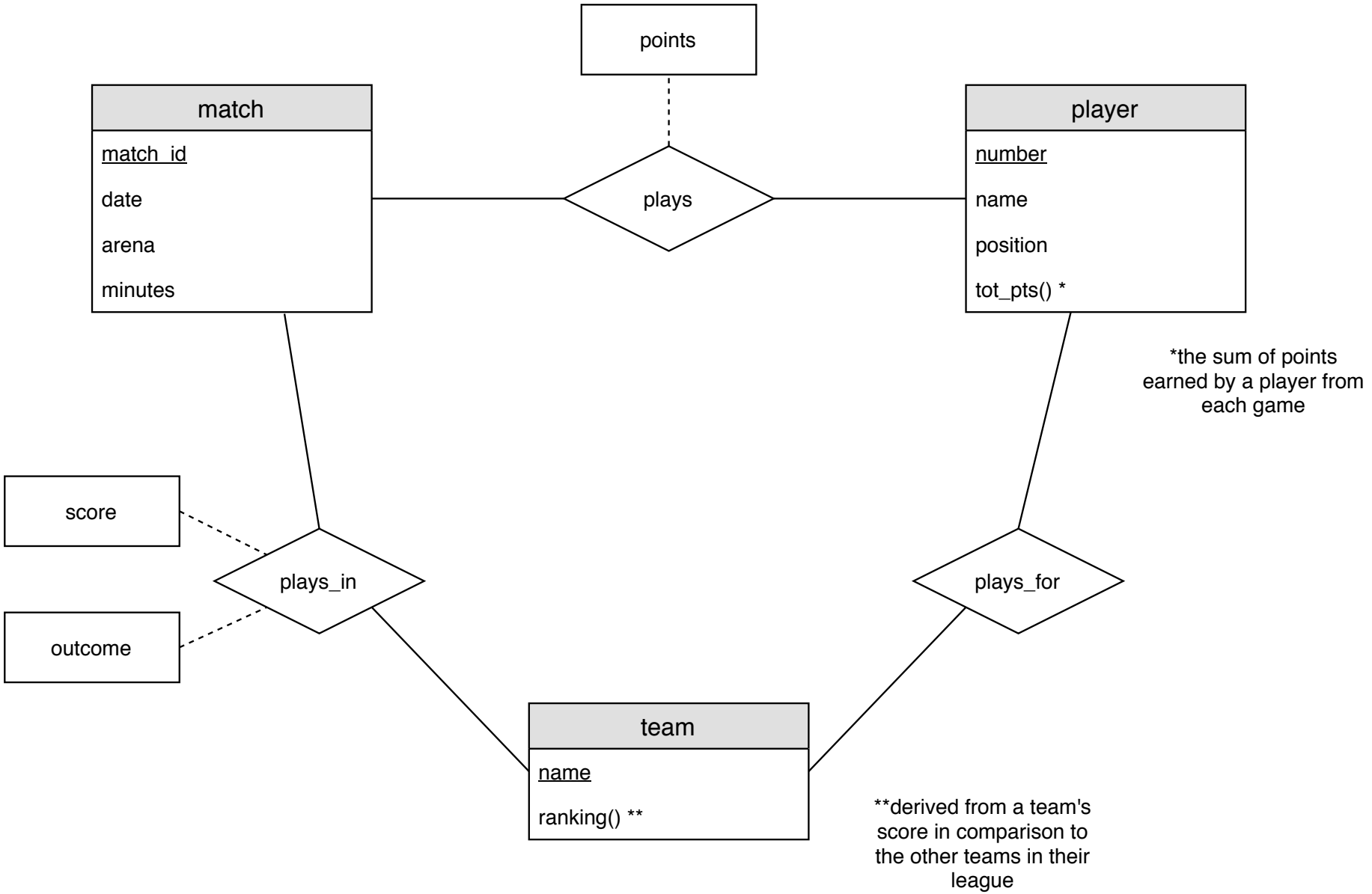
Strong Entity Set: An entity set with a primary key. It is not existent dependent on another set.



Question 2



*the sum of points earned by a player from each game


points
match
match_id
date
arena
minutes
plays
player
number
name
position
tot_pts() *
*the sum of points earned by a player from each game
score
outcome
plays_in
plays_for
team
name
ranking() **
**derived from a team's score in comparison to the other teams in their league

Question 3a

Adding section with a natural join is redundant in this case since the relations, takes and student already have all the necessary attributes.

```
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;
```

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

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

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

```
SELECT DISTINCT s.id, s.name
FROM student AS s
LEFT OUTER JOIN takes AS t
ON s.id = t.id
WHERE t.id IS NULL;
```

ID	name
70557	Snow

Question 3c

```
SELECT  e.id
FROM employee AS e
NATURAL LEFT OUTER JOIN manages AS
m
WHERE m.manager_id IS NULL;
```