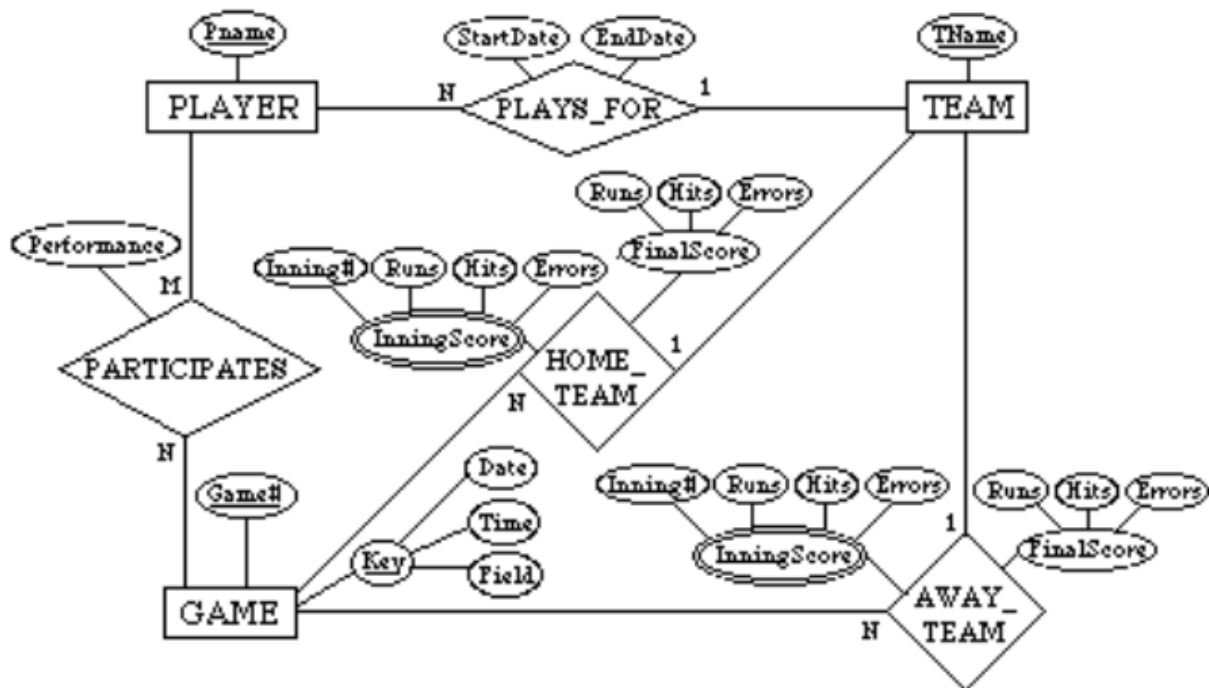


Sample Solutions for Homework

Question A. (totally 50 marks)

1) *The ER diagram*

(30 marks)

2) *ER => Relational tables*

TEAM (TName, owner, coach, ...) [3 marks]

PLAYER(Pname, TName, StartDate, EndDate) [5 marks] //Optionally, there can be an additional table for the diamond PLAYS\_FOR

GAME (Game#, Date, Time, Field) [3 marks]

PARTICIPATES (Pname, Game#, Performance) [3 marks]

HOME-TEAM(Game#, TName, InningScore, FinalScore) [3 marks]

AWAY-TEAM(Game#, TName, InningScore, FinalScore) [3 marks] //note that the last two tables can be merged into one, by adding an extra attribute like "HomeOrAway".

Question B. (totally 50 marks)

1).

```
SELECT * FROM STAFF WHERE (SALARY < 5000 OR SALARY > 30000)
                        AND GENDER = 'FEMALE';
```

(5 marks)

2).

```
SELECT * FROM STAFF WHERE DEPARTMENT NOT IN ('ACCOUNTING','HISTORY');
```

(5 marks)

3).

```
SELECT * FROM STUDENT WHERE STUDENT_NAME LIKE '%JONES%'
                        ORDER BY GENDER, BIRTHDATE;
```

(6 marks)

4).

```
SELECT * FROM COURSE
        WHERE STAFF_ID = (SELECT STAFF_ID FROM STAFF
                        WHERE STAFF_NAME = 'Raymond J. JOHNSON');
```

(6 marks)

5).

```
SELECT STAFF_NAME FROM STAFF E
        WHERE SALARY > (SELECT SALARY FROM STAFF B WHERE B.STAFF_ID = E.BOSS_ID);
```

(8 marks)

6).

```
SELECT * FROM STAFF
        WHERE DEPARTMENT IN (SELECT DEPARTMENT FROM STAFF
                        WHERE STAFF_NAME = 'Amy Dancer' OR STAFF_NAME = 'Jack Nelson');
```

(8 marks)

7).

```
SELECT STAFF_NAME FROM STAFF
        WHERE SALARY > ALL(SELECT SALARY FROM STAFF
                        WHERE DEPARTMENT = 'ACCOUNTING');
```

(7 marks)

8).

```
SELECT DEPARTMENT,AVG(SALARY)
        FROM STAFF
        GROUP BY DEPARTMENT HAVING COUNT(*) >1;
```

(5 marks)