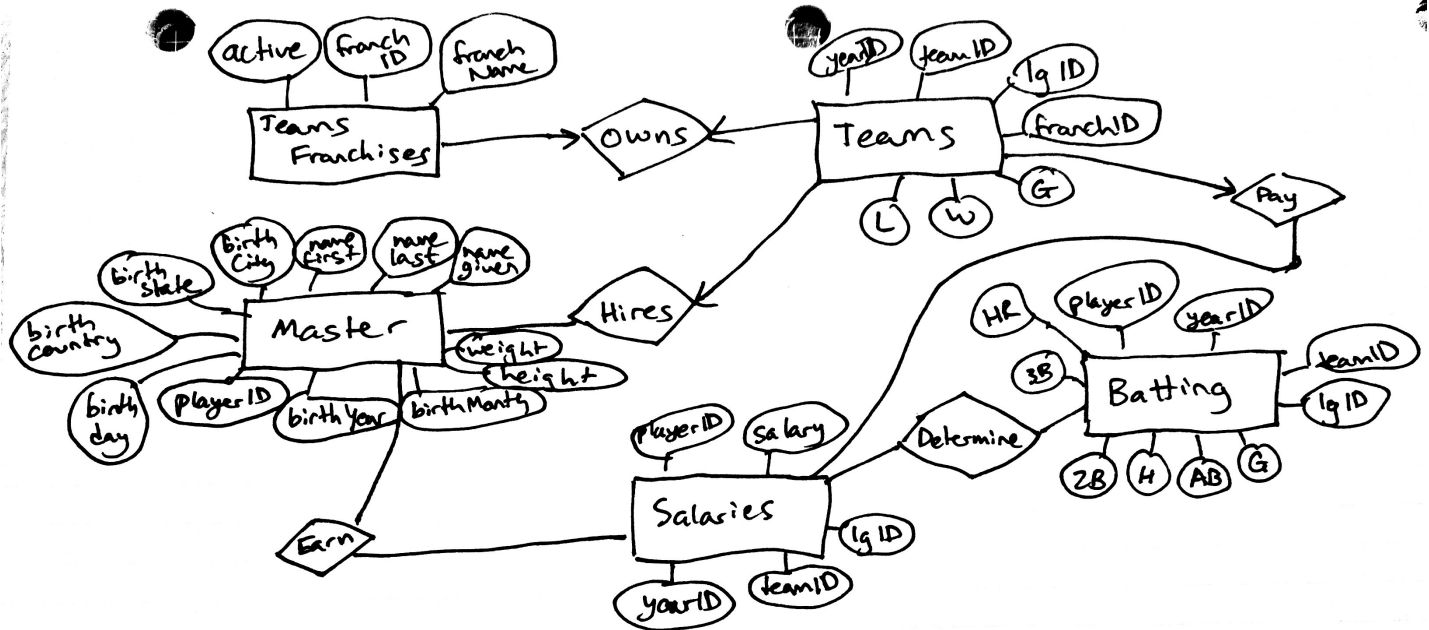# Nishant Arora

CMSC320 HW 2

ER Diagram

Primary Keys

TeamsFranchises (franchID, franchName)
Teams (teamID, franchID, W)
Master (playerID, nameFirst, nameLast)
Salaries (playerID, yearID, teamID, salary)
Batting (playerID, yearID, teamID, H)

Key

Rectangle: Entity
Oval: Attribute
Diamond: Action.

SQL

1. How many franchises are listed in the database (see `count` (https://sqlite.org/lang_aggfunc.html#count))?

```
select count(*) from TeamsFranchises;
```

1 records

count(*)

120

2. How many franchises are currently active?

```
select count(*) from TeamsFranchises
where active = "Y";
```

1 records

count(*)
30

3. Which teams won more than 100 games in one season between 2000 and 2015? Order result by descending number of wins. (attribute `W` of the Teams table contains the number of wins)

```
select teamID, yearID, W from Teams
where W > 100
and yearID between 2000 and 2015
order by W desc;
```

Displaying records 1 - 10

teamID	yearID	W
SEA	2001	116
SLN	2004	105
NYA	2002	103
OAK	2002	103
NYA	2009	103
OAK	2001	102
PHI	2011	102
ATL	2002	101
NYA	2003	101
ATL	2003	101

4. What is the franchise name of the team with the most total wins in the database?

```
select franchName, teamID, max(s) from
(select franchName, teamID, sum(W) as s from
Teams join TeamsFranchises on Teams.franchID = TeamsFranchises.franchID
group by teamID)
```

1 records

franchName	teamID	max(s)
Chicago Cubs	CHN	10711

5. What is the franchise name of the team with the highest winning percentage in a season in the database? (Win percentage is `W/G`)

```
select franchName, yearID, teamID, max(p) from

(select franchName, yearID, teamID, 1.0 * W / G as p from
Teams join TeamsFranchises on Teams.franchID = TeamsFranchises.franchID
group by teamID, yearID);
```

1 records

franchName	yearID	teamID	max(p)
Boston Red Stockings	1875	BS1	0.8658537

6. What is the franchise name of the team with the highest single-year payroll between 2000 and 2015?

```
select yearID, teamID, franchName, max(s) from
(select Teams.franchID, franchName, Teams.yearID, Teams.teamID, sum(salary) as s from Te
ams join Salaries on Teams.yearID = Salaries.yearID join TeamsFranchises on Teams.franch
ID = TeamsFranchises.franchID
where Salaries.yearID between 2000 and 2015
group by Salaries.teamID, Salaries.yearID)
```

1 records

yearID	teamID	franchName	max(s)
2013	WAS	Washington Nationals	6959366580