


ER Tutorial 1.2

Consider the following information about a baseball legend:

- Teams have a TID and a name
- Players have a name and an age
- Pitchers are a type of Players. Each pitcher has attributes W (win games), L (loss games), and ERA (earned run average)
- Batters are a type of Players. Each batter has attributes AVG (batting average) and HR (home runs)
- Each player plays for exactly one team; a team can have many players
- Each player has exactly a contract relationship with his team, and a contract contains years and salary.
- Games have a date (on which the game was played) and a score (e.g., "3:2")
- A game has exactly a winning team and has exactly a losing team; A game can be uniquely identified by its winning team, losing team, and the date.

Identify the Entity, attributes and draw the ER diagram.



The company you work for wants to digitize their time cards. You have been asked to design the database for submitting and approving time cards. Draw the database ER diagram with the following information:

- A *timecard* should have hours worked and date submitted
- Each *timecard* is associated with exactly one *employee*
- Each *timecard* should have a unique id
- Each *timecard* has a status: it is either approved, not approved, or pending
- Each *employee* has a unique id
- Each *employee* has a name and address.
- Each *employee* submits a time card every pay period. i.e. In 1 year, they will submit multiple time cards
- Each *employee* either has direct deposit or physical check as their method of payment
- Each *employee* is associated with exactly one *manager*
- Each *manager* has a unique id and a name
- Each *manager* is in charge of multiple employees
- Each *manager* approves time cards for multiple employees

Identify the Entity, attributes and draw the ER diagram.