Question

Suppose you are given the following requirements for a simple database for the National Hockey League (NHL):

- the NHL has many teams,

- each team has a name, a city, a coach, a captain, and a set of players,

- each player belongs to only one team,

- each player has a name, a position (such as left wing or goalie), a skill level, and a set of injury records,

- a team captain is also a player,

- a game is played between two teams (referred to as host team and guest team) and has a date (such as May 11th, 1999) and a score (such as 4 to 2).

Construct a clean and concise ER diagram for the NHL database.

Step 1 : Identify the entity sets

- From the given question the entity sets identified are
    1. TEAM
    2. PLAYER
    3. INJURY_RECORD

Step 2 : Identify the relevant attributes

- The relevant attributes of TEAM entity set are
  - tname
  - city
  - coach
- The relevant attributes of PLAYER entity set are
  - pid
  - pname
  - position
  - skill_level
- The relevant attributes of INJURY_RECORD entity set are
  - iid
  - description

Step 3 : Identify the prime attributes

- The prime attribute of TEAM entity set is
  - tname
- The prime attribute of PLAYER entity set is
  - pid
- The prime attribute of INJURY_RECORD entity set is
  - {pid, iid}

Step 4 : Identify the relationships

- each team has a name, a city, a coach, a captain, and a set of players,
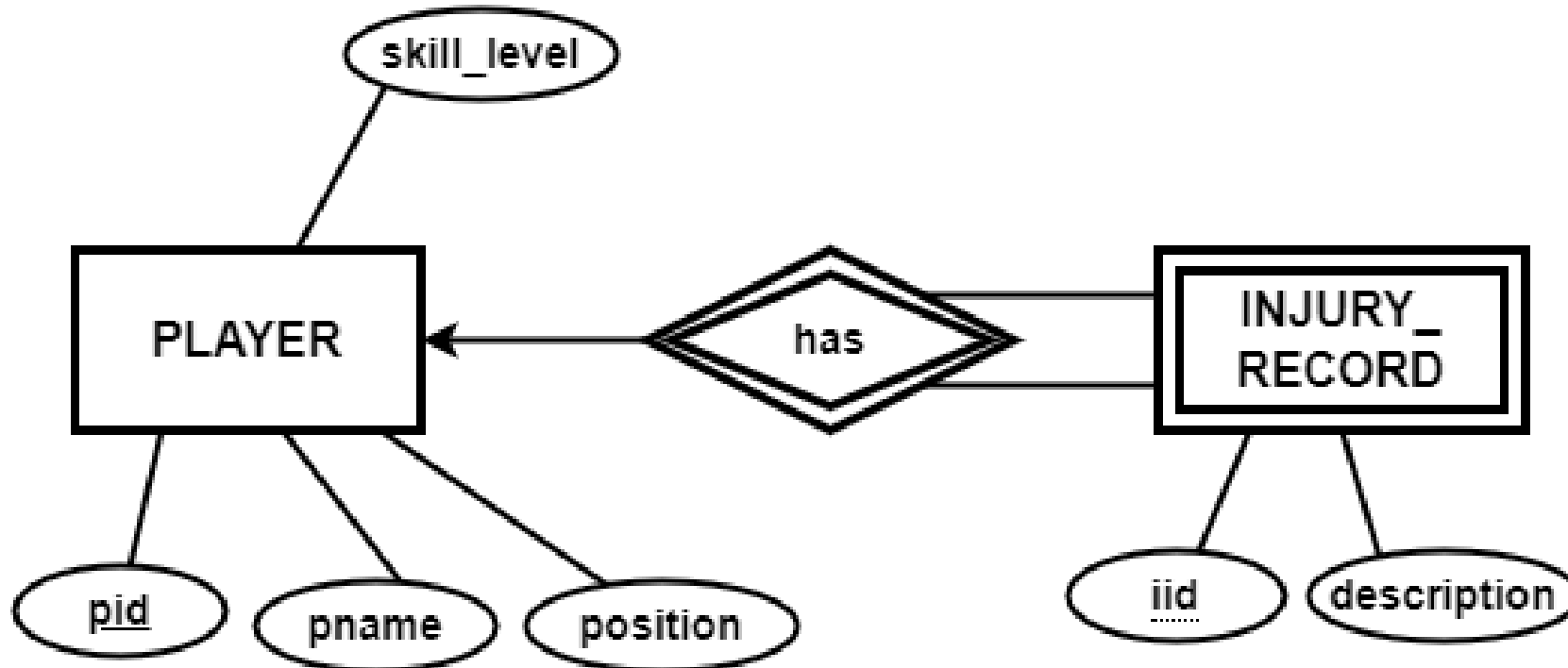- each player belongs to only one team,

Step 4 : Identify the relationships

- each team has a name, a city, a coach, a captain, and a set of players,
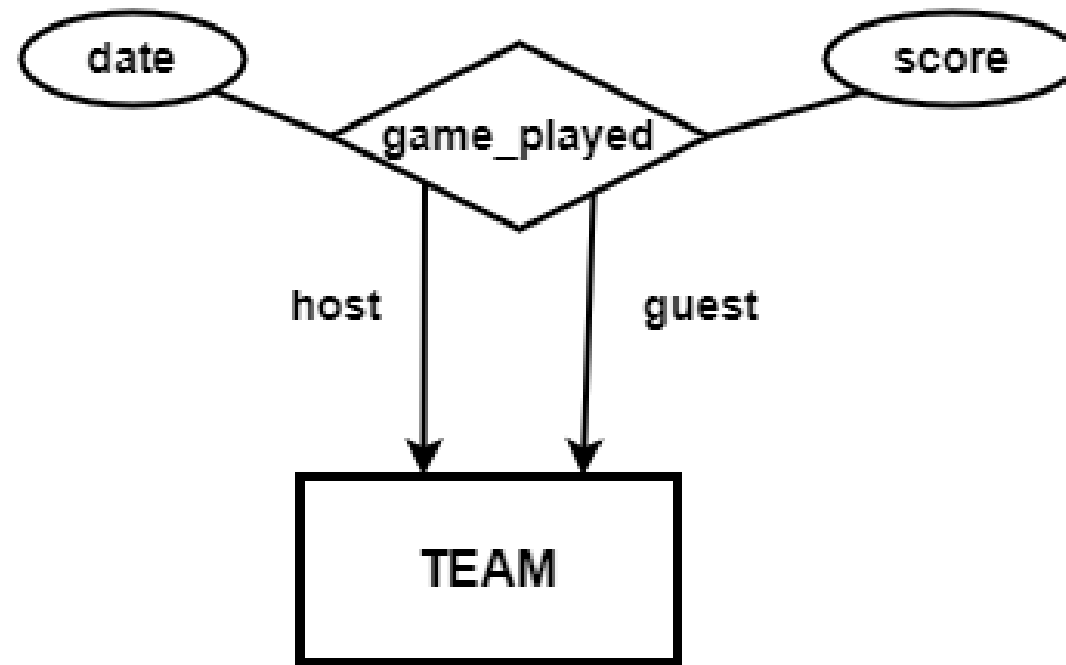
- a team captain is also a player,

Step 4 : Identify the relationships

- each player has a name, a position (such as left wing or goalie), a skill level, and a set of injury records,
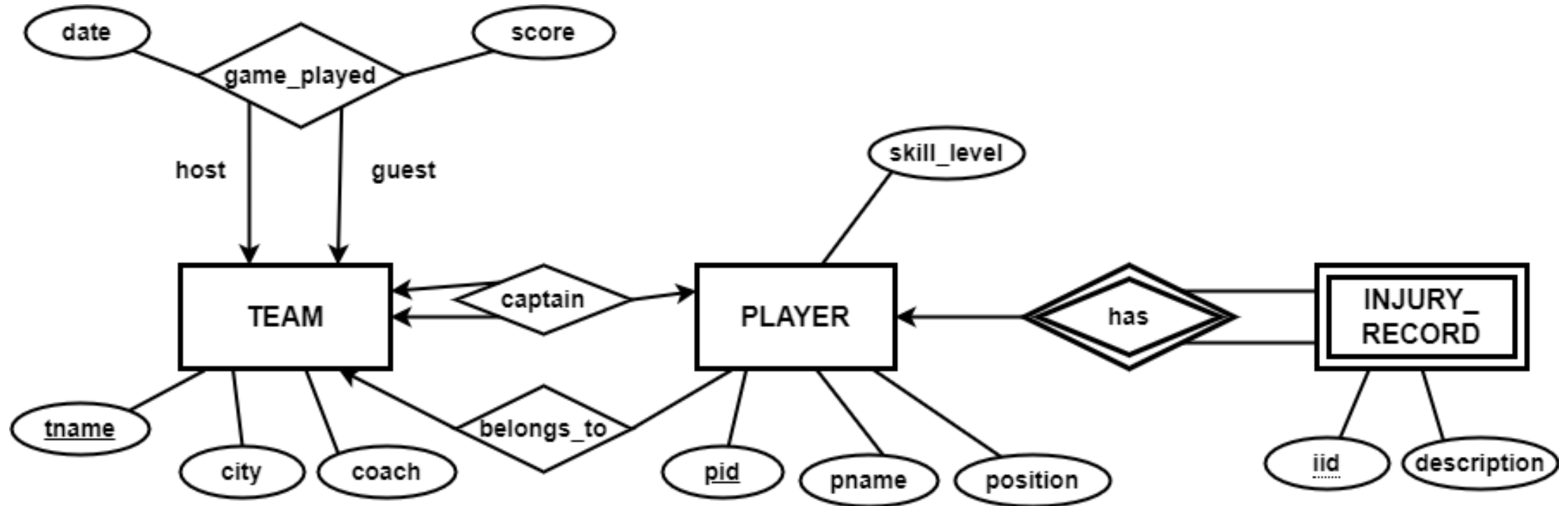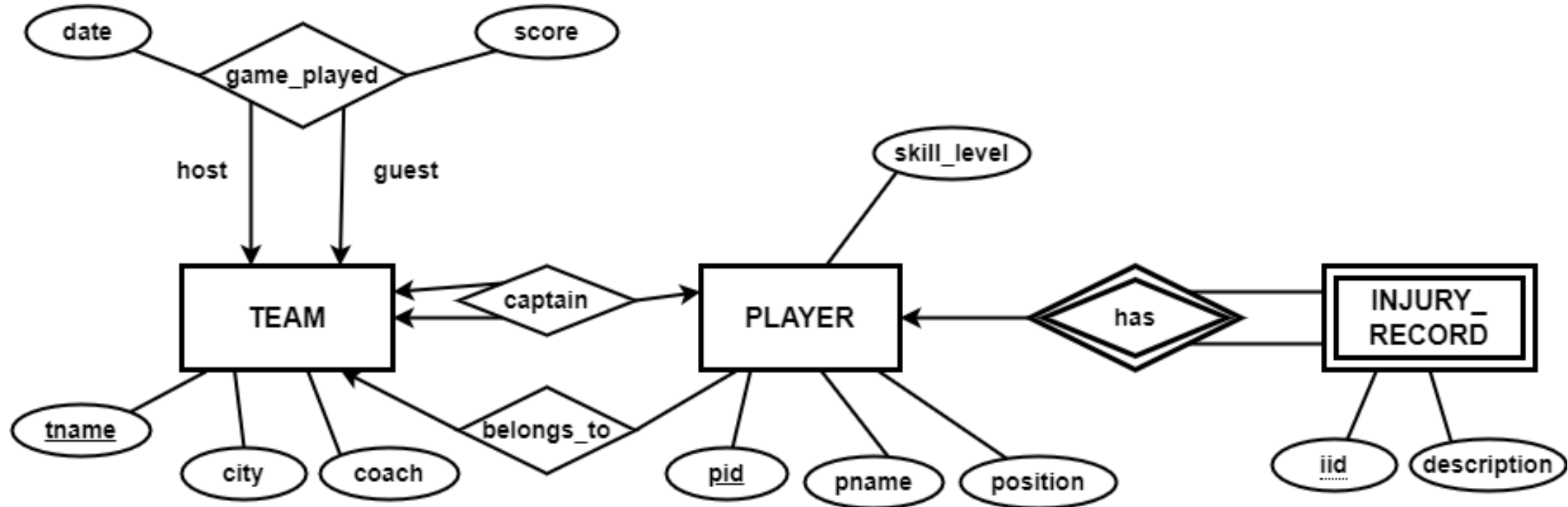
Step 4 : Identify the relationships

- a game is played between two teams (referred to as host team and guest team) and has a date (such as May 11th, 1999) and a score (such as 4 to 2).

Step 5 : Complete E R Diagram

Conversion into Relational Schema

- TEAM (<u>tname</u>, city, coach, captainid)
- PLAYER (<u>pid</u>, pname, position, skill_level, tname)
- INJURY_RECORD (<u>pid, iid</u>, description)
- game_played (<u>host_tname, guest_tname</u>, date, score)

Conversion into Relational Schema

- TEAM (<u>tname</u>, city, coach, captainid)
- PLAYER (<u>pid</u>, pname, position, skill_level, tname)
- INJURY_RECORD (<u>pid, iid</u>, description)
- game_played (<u>host_tname, guest_tname</u>, date, score)

- Total number of tables : 4
- Total number of foreign keys : 5
    1. captainid
    2. tname
    3. pid
    4. host_tname
    5. guest_tname

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The link for my youtube channel is

https://www.youtube.com/channel/UCRWGtE76JlTp1iim6aOTRuw?sub_confirmation=1