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Databases HW 1

ER Diagram:

- **Name** (attribute) — Player
- Player (double box) —Player— **Favorite player** (diamond) —Fan— Fan
- **Name** (attribute) — Fan
- Player —Player— **Player for** (double diamond) with **asCaptain?** attribute
- Fan —Fan— **Favorite Team** (diamond)
- Fan —Fan— **Favorite Color** (diamond)
- **Player for** —Team— Team
- **Favorite Team** —Team— Team
- **Favorite Color** —Color— Colors
- Team —Team— **Uniform Color** (diamond) —colors (0,3)— Colors
- **Name** (attribute) — Team
- **Name** (attribute) — Colors

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**Additional Assumptions:**
• Colors must have a name.
• Fans must have a unique name (they can use nicknames/usernames, so this isn't unreasonable).
• There cannot be multiple players with the same name on the same team.

**Discussion of colors options:**
• Colors as entity: *SELECTED*
     - Pros: Easy searching for colors. Easy to add HEX codes later
     - Cons: Complex
• Colors as attributes only:
     - Pros: Initially simple
     - Cons: Difficulty searching. Encourages imprecise naming of colors. hard to expand.

**Discussion of Captain options:**
• IS A relationship
     - Pros: Enforces "only one captain"
     - Cons: Complicated, captain isn't forced to associate with same team
• "Player for" attribute *SELECTED*
     - Pros:  Simple, doesn't add a new table, enforces "captain plays for same team"
     - Cons: "Only one captain per team" isn't enforced
• Separate relationship between Player and team
     - Pros: Only slightly complex.
     - Cons: Doesn't enforce "only one captain" or "captain plays for same team"
• Player attribute
     - Pros: Dead simple
     - Cons: Doesn't enforce either constraint