## **Eric Schmidt**

- 1) Functional Dependencies:
  - Age Table:
    - GroupNumber -> AgeRange
  - Team Table:
    - TeamNumber -> GroupNumber, TeamName
  - Players Table:
    - PlayerNum -> FirstName, LastName, Address, PhoneNum
  - HeadCoach Table:
    - HeadCoachNum -> CoachNumber
  - AssistantCoachIn Table:
    - AstCoachNum -> TeamNumber
  - AssistantCoach Table:
    - AstCoachNum ->CoachNumber
  - Coaches Table:
    - o CoachNumber -> FirstName, LastName, Address, PhoneNum, YearsCoached

2)

See Lab 9 RD Diagram on GitHub

3)  $3^{rd}$  Normal Form must first be proven to be  $2^{nd}$  normal form and therefore also  $1^{st}$  normal form. It is in  $1^{st}$  normal form because all values are atomic and each attribute contains only one value. It is also in  $2^{nd}$  normal form because it meets  $1^{st}$  normal form rulings and everything is functionally dependent on a primary key. The diagram is in  $3^{rd}$  normal form because it meets the  $2^{nd}$  normal form requirement and every attribute is dependent on the one key and nothing else. It is also in Boyce Codd normal form because there are no multiple overlapping candidate keys.