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Database Management  
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Lab 9

### Normalization Three

Functional Dependencies:

(zip)  $\rightarrow$  cityTown, state, country

(pid)  $\rightarrow$  firstName, lastName, phoneNumber, address1, address2, zip

(cid)  $\rightarrow$  yearsCoaching

(playerID)  $\rightarrow$  teamID, age

(teamID)  $\rightarrow$  teamName, ageGroup, hcid

(teamID, acid)  $\rightarrow$  none

The database is in third normal form because it fulfills all the previous needed normal forms and it also doesn't have multiple key dependencies in any of its tables. One example of this is the Zip Code table and its relationship to the Person table. If city, state and country had been included in the Person table info, then there would have been a multiple key dependency because the zip code would have also functionally determined them. As a result, there is a separate table with the zip code information and the corresponding cities or towns, states and countries. As for the partial key dependencies, the table also does not have any of those because every primary key in the database determines all of the nonkeys in its corresponding tables. Also, every intersection is atomic because there is only one value for every intersection in every table.