

Minimal Functional Dependency

Player

PlayerID \rightarrow {Name, DOB, Place, Height, Role, Batting-Style, Bowling-Style, TeamID}

So, here the key of the relation is PlayerID since PlayerID uniquely determines all other attributes of the relation.

The relation is BCNF since every Prime or Non-Prime attribute is dependent upon the key.

Team

TeamID \rightarrow {Name, Rank}

So, here the key of the relation is TeamID since TeamID uniquely determines all other attributes of the relation.

The relation is BCNF since every Prime or Non-Prime attribute is dependent upon the key.

Coach

CoachID \rightarrow {Name, Country, Role, TeamID}

So, here the key of the relation is CoachID since CoachID uniquely determines all other attributes of the relation.

The relation is BCNF since every Prime or Non-Prime attribute is dependent upon the key.

Umpire

UmpireID \rightarrow {Name, Country}

So, here the key of the relation is UmpireID since UmpireID uniquely determines all other attributes of the relation.

The relation is BCNF since every Prime or Non-Prime attribute is dependent upon the key.

Match

MatchID \rightarrow {Type, stadium, Result, Date, M.O.M (PlayerID)}

So, here the key of the relation is MatchID since MatchID uniquely determines all other attributes of the relation.

The relation is BCNF since every Prime or Non-Prime attribute is dependent upon the key.

Inning

{InningID, MatchID} \rightarrow {TeamID, Runs, Wickets, Extras}

So, here the key of the relation is {InningID, MatchID} since {InningID, MatchID} uniquely determines all other attributes of the relation.

The relation is BCNF since every Prime or Non-Prime attribute is dependent upon the key.

Highlights

$\{\text{MatchID}, \text{InningID}, \text{Over}\} \rightarrow \{\text{BatsmanID (PlayerID)}, \text{BowlerID (PlayerID)}\}$

So, here the key of the relation is $\{\text{MatchID}, \text{InningID}, \text{Over}\}$ since it uniquely determines all other attributes of the relation.

The relation is BCNF since every Prime or Non-Prime attribute is dependent upon the key.

Statistics

$\{\text{PlayerID}, \text{MatchID}\} \rightarrow \{\text{Run-Scored}, \text{Balls}, \text{Four}, \text{Six}, \text{Wicket}, \text{Runs-Given}, \text{Maiden}, \text{Overs}\}$

So, here the key of the relation is $\{\text{PlayerID}, \text{MatchID}\}$ since it uniquely determines all other attributes of the relation.

The relation is BCNF since every Prime or Non-Prime attribute is dependent upon the key.

Highlights-Status

$\{\text{PlayerID}, \text{MatchID}, \text{Over}\} \rightarrow \{\text{Delivery_Status}\}$

So, here the key of the relation is $\{\text{PlayerID}, \text{MatchID}\}$ since it uniquely determines all other attributes of the relation.

The relation is BCNF since every Prime or Non-Prime attribute is dependent upon the key.

Player_Match

$\{\text{PlayerID}, \text{MatchID}\} \rightarrow \{\text{IN-Game Role}\}$

So, here the key of the relation is {PlayerID, MatchID} since it uniquely determines all other attributes of the relation.

The relation is BCNF since every Prime or Non-Prime attribute is dependent upon the key.