

Original Table

School	City	Coach	Uniform #	Player Name	Team Name
Weber	Pleasant View	Corbridge	42	Locke	Warriors
Weber	Pleasant View	Corbridge	18	Reyes	Warriors
Northridge	Layton	Thompson	6	Austin	Knights
Davis	Kaysville	Bishop	42	Shepherd	Darts

To put database into 1NF I'm resolving atomicity issues with "Record" and repeating groups with

Record		Wins	Losses		Game 1 Date
3W 6L	Will be >>>	3	6	And	8/20/2011
3W 6L		3	6		8/20/2011
9W 3L		9	3		8/20/2011
8W 2L		8	2		9/3/2011

Record will show wins and losses separately

Games will be nu

The new original table will look like this in **1NF**

Original Table

School	City	Coach	Uniform #	Player Name	Team Name
Weber	Pleasant View	Corbridge	42	Locke	Warriors
Weber	Pleasant View	Corbridge	42	Locke	Warriors
Weber	Pleasant View	Corbridge	18	Reyes	Warriors
Weber	Pleasant View	Corbridge	18	Reyes	Warriors
Northridge	Layton	Thompson	6	Austin	Knights
Northridge	Layton	Thompson	6	Austin	Knights
Davis	Kaysville	Bishop	42	Shepherd	Darts
Davis	Kaysville	Bishop	42	Shepherd	Darts

Now to identify the primary key

**PK = School, Uniform Number, Game Number**

With the PK identified the new original table will look like this

Original Table

(PK) School	City	Coach	(PK) Uniform #	Player Name	Team Name
Weber	Pleasant View	Corbridge	42	Locke	Warriors
Weber	Pleasant View	Corbridge	42	Locke	Warriors
Weber	Pleasant View	Corbridge	18	Reyes	Warriors
Weber	Pleasant View	Corbridge	18	Reyes	Warriors
Northridge	Layton	Thompson	6	Austin	Knights
Northridge	Layton	Thompson	6	Austin	Knights
Davis	Kaysville	Bishop	42	Shepherd	Darts
Davis	Kaysville	Bishop	42	Shepherd	Darts

To put the database into **2NF** I will now identify partial dependencies and move them into their o

### Partial Dependencies

School -> City, Coach, Team Name, Wins, and Losses

School, Uniform # -> Player Name

School, Game # -> Game Date, Game Score

Now to remove the first partial (School -> City, Coach, Team Name, Wins, and Losses) from the o

**School W/L Record**

(FK) School	City	Coach	Team Name	Wins	Losses
Weber	Pleasant View	Corbridge	Warriors	3	6
Northridge	Layton	Thompson	Knights	9	3
Davis	Kaysville	Bishop	Darts	8	2

After removing the first partial the original table now looks like this

**Original Table**

(PK) School	(PK) Uniform #	Player Name	(PK) Game #	Game Date	Game Score
Weber	42	Locke	1	8/20/2011	3 - 7 (L)
Weber	42	Locke	2	8/27/2011	0 - 31 (L)
Weber	18	Reyes	1	8/20/2011	3 - 7 (L)
Weber	18	Reyes	2	8/27/2011	0 - 31 (L)
Northridge	6	Austin	1	8/20/2011	21 - 14 (W)
Northridge	6	Austin	2	9/3/2011	13 - 54 (L)
Davis	42	Shepherd	1	9/3/2011	27 - 20 (W)
Davis	42	Shepherd	2	9/17/2011	6 - 14 (L)

Removing the second partial (School, Uniform # -> Player Name) gives us the following table

**School Players**

(FK) School	(FK) Uniform #	Player Name
Weber	42	Locke
Weber	18	Reyes
Northridge	6	Austin
Davis	42	Shepherd

Now the original table looks like this

**Original Table**

(PK) School	(PK) Uniform #	(PK) Game #	Game Date	Game Score
Weber	42	1	8/20/2011	3 - 7 (L)
Weber	42	2	8/27/2011	0 - 31 (L)
Weber	18	1	8/20/2011	3 - 7 (L)
Weber	18	2	8/27/2011	0 - 31 (L)

Northridge	6	1	8/20/2011	21 - 14 (W)
Northridge	6	2	9/3/2011	13 - 54 (L)
Davis	42	1	9/3/2011	27 - 20 (W)
Davis	42	2	9/17/2011	6 - 14 (L)

Removing our third and final partial (School, Game # -> Game Date, Game Score) gives us the following

**School Games**

(FK) School	(FK) Game #	Game Date	Game Score
Weber	1	8/20/2011	3 - 7 (L)
Weber	2	8/27/2011	0 - 31 (L)
Northridge	1	8/20/2011	21 - 14 (W)
Northridge	2	9/3/2011	13 - 54 (L)
Davis	1	9/3/2011	27 - 20 (W)
Davis	2	9/17/2011	6 - 14 (L)

Which leave our original table with the following

**Original Table**

(PK) School	(PK) Uniform #	(PK) Game #
Weber	42	1
Weber	42	2
Weber	18	1
Weber	18	2
Northridge	6	1
Northridge	6	2
Davis	42	1
Davis	42	2

The database is now in **2NF** as follows

**Schools**

(PK) School	(PK) Uniform #	(PK) Game #
Weber	42	1
Weber	42	2
Weber	18	1
Weber	18	2
Northridge	6	1
Northridge	6	2
Davis	42	1
Davis	42	2

(FK) School	City
Weber	Pleasant View
Northridge	Layton
Davis	Kaysville

**School**

(FK) School	(FK) Game #
Weber	1
Weber	2
Northridge	1
Northridge	2
Davis	1

**School Players**

(FK) School	(FK) Uniform #	Player Name
Weber	42	Locke
Weber	18	Reyes

Northridge	6	Austin
Davis	42	Shepherd

Davis	2
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To put the database into **3NF** I will remove any transitive dependencies and place them into their  
Upon examining the tables it appears that every non key column depends on the key columns for

Record	Game 1 Date	Game 1 Score	Game 2 Date	Game 2 Score
3W 6L	8/20/2011	3 - 7 (L)	8/27/2011	0 - 31 (L)
3W 6L	8/20/2011	3 - 7 (L)	8/27/2011	0 - 31 (L)
9W 3L	8/20/2011	21 - 14 (W)	9/3/2011	13 - 54 (L)
8W 2L	9/3/2011	27 - 20 (W)	9/17/2011	6 - 14 (L)

"Game Date" and "Game Score" columns

Game 1 Score	Game 2 Date	Game 2 Score
3 - 7 (L)	8/27/2011	0 - 31 (L)
3 - 7 (L)	8/27/2011	0 - 31 (L)
21 - 14 (W)	9/3/2011	13 - 54 (L)
27 - 20 (W)	9/17/2011	6 - 14 (L)

Will be >>>

Game #	Game Date	Game Score
1	8/20/2011	3 - 7 (L)
2	8/27/2011	0 - 31 (L)
1	8/20/2011	3 - 7 (L)
2	8/27/2011	0 - 31 (L)
1	8/20/2011	21 - 14 (W)
2	9/3/2011	13 - 54 (L)
1	9/3/2011	27 - 20 (W)
2	9/17/2011	6 - 14 (L)

umbered, dated, and scored separately

Wins	Losses	Game #	Game Date	Game Score
3	6	1	8/20/2011	3 - 7 (L)
3	6	2	8/27/2011	0 - 31 (L)
3	6	1	8/20/2011	3 - 7 (L)
3	6	2	8/27/2011	0 - 31 (L)
9	3	1	8/20/2011	21 - 14 (W)
9	3	2	9/3/2011	13 - 54 (L)
8	2	1	9/3/2011	27 - 20 (W)
8	2	2	9/17/2011	6 - 14 (L)

Wins	Losses	(PK) Game #	Game Date	Game Score
3	6	1	8/20/2011	3 - 7 (L)
3	6	2	8/27/2011	0 - 31 (L)
3	6	1	8/20/2011	3 - 7 (L)
3	6	2	8/27/2011	0 - 31 (L)
9	3	1	8/20/2011	21 - 14 (W)
9	3	2	9/3/2011	13 - 54 (L)
8	2	1	9/3/2011	27 - 20 (W)
8	2	2	9/17/2011	6 - 14 (L)

own tables

original table and make it its own table

owing table

#### School W/L Records

Coach	Team Name	Wins	Losses
Corbridge	Warriors	3	6
Thompson	Knights	9	3
Bishop	Darts	8	2

#### Games

Game Date	Game Score
8/20/2011	3 - 7 (L)
8/27/2011	0 - 31 (L)
8/20/2011	21 - 14 (W)
9/3/2011	13 - 54 (L)
9/3/2011	27 - 20 (W)

9/17/2011	6 - 14 (L)
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own tables

r those tables, so the tables are in **3NF**