Students Name- Neeraj Kumar Bansal, Akshit Sabharwal, Varsha Surendranath

Course – CST8215

Course Code – 301

Professor – Roly Roy

#1 Milestone Submission (Business\_Rules.docx)

**Introduction/ Abstract of Database**

The Board of Control for Cricket (BCCI) in India is the national cricket board in India. They are responsible for holding national and international cricket matches in India.

They also record data of players including their roles, teams for which they play, place of birth, and manager who assign them for different teams. Provinces for which players play also recorded and during international team selection, these recorded stats play a major role as this data shows which player is in-form and off-form.

**Business Rules**

* **Player**

1. A player requires a unique Id number, not greater than 1000.
2. A player can take any retired player’s sport number.

* **Team**

1. Each state can have only one team.
2. A team can have a maximum of 17 players, 11 playing and 6 substitutes.
3. A player must be in a team.
4. Each team can have one and only one manager.

* **Role**

1. More than one player can have the same role in their respective team.
2. A player can have only one role.

* **Manager**

1. Each manager should have a unique id.
2. A manager can manage only one team at a time.
3. A manager can assign more than one player to their respective team.

* **Province**

1. It is not necessary for a province to play the sport.
2. More than one player could have the same province.
3. Any player from another province can play for other team.

**Logical ER Diagram**

**Diagram

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**#2 DDL.sql File**

--Inventory-DDl.sql fie

--Name - Neeraj Kumar Bansal, Akshit Sabharwal, Varsha Surendernath

--Class - CST8215\_301

--Date - 31-07-2021

DROP TABLE IF EXISTS Player\_Role;

DROP TABLE IF EXISTS Province;

DROP TABLE IF EXISTS Manager;

DROP TABLE IF EXISTS Team;

DROP TABLE IF EXISTS Player;

CREATE TABLE Manager(

Manager\_Id INTEGER NOT NULL,

Manager\_Name varchar(20) NOT NULL,

CONSTRAINT Pk\_Manager PRIMARY KEY(Manager\_Id)

);

CREATE TABLE Province(

Province\_Code char(3) NOT NULL,

Province\_Name varchar(20) NOT NULL,

CONSTRAINT Pk\_Province PRIMARY KEY(Province\_Code)

);

CREATE TABLE Role(

Role\_Name varchar(20) NOT NULL,

CONSTRAINT Pk\_Player\_Role PRIMARY KEY(Role\_Name)

);

CREATE TABLE Team (

Team\_Code char(3) NOT NULL,

Team\_Name varchar(225) NOT NULL,

Manager\_Id INTEGER NOT NULL,

Province\_Code char(3) NOT NULL,

CONSTRAINT Pk\_Team PRIMARY KEY(Team\_Code),

CONSTRAINT Fk\_Manager\_Id FOREIGN KEY(Manager\_Id) REFERENCES Manager(Manager\_Id),

CONSTRAINT Fk\_Province\_Code FOREIGN KEY(Province\_Code) REFERENCES Province(Province\_Code)

);

CREATE TABLE Player (

Player\_Id INTEGER NOT NULL,

Player\_Fname varchar(20) NOT NULL,

Player\_Lname varchar(20) NULL,

Payer\_Age INTEGER NULL,

Player\_Birth\_Place varchar(20) NOT NULL,

Team\_Code char(3) NOT NULL,

Manager\_Id INTEGER NOT NULL,

Player\_Role\_Name varchar(20) NOT NULL,

CONSTRAINT Pk\_Player PRIMARY KEY(Player\_Id),

CONSTRAINT Fk\_Team\_Code FOREIGN KEY( Team\_Code ) REFERENCES Team( Team\_Code ),

CONSTRAINT Fk\_Manager\_Id FOREIGN KEY(Manager\_Id) REFERENCES Manager(Manager\_Id),

CONSTRAINT Fk\_Player\_Role\_Name FOREIGN KEY(Player\_Role\_Name) REFERENCES Role(Role\_Name)

);

**#3 DML.sql File**

--Inventory-DMl.sql file

--Name- Neeraj Kumar Bansal, Akshit Sabharwal, Varsha Sundernath

--Class- CST8215\_301

--Date- 31-07-2021

INSERT INTO Manager VALUES (23432,'Netaji');

INSERT INTO Manager VALUES (19877,'Bahubali');

INSERT INTO Manager VALUES (21430,'Amit\_Shah');

INSERT INTO Manager VALUES (29800,'Preety\_Zinta');

INSERT INTO Manager VALUES (28977,'Mukesh\_Ambani');

INSERT INTO Manager VALUES (28801, 'Ramdev');

INSERT INTO Manager VALUES (20010,'Bahubali');

INSERT INTO Manager VALUES (21987,'Rahul\_Ghandhi');

INSERT INTO Manager VALUES (30001,'Rahul\_Dravid');

INSERT INTO Manager VALUES (29776,'Shahrukh\_Khan');

INSERT INTO Province VALUES ('BLU','Bengaluru');

INSERT INTO Province VALUES ('CHN','Chennai');

INSERT INTO Province VALUES ('MUM','Mumbai');

INSERT INTO Province VALUES ('PB','Punjab');

INSERT INTO Province VALUES ('PN','Pune');

INSERT INTO Province VALUES ('JP','Jaipur');

INSERT INTO Province VALUES ('AHD','Ahmedabad');

INSERT INTO Province VALUES ('HYD','Hyderabad');

INSERT INTO Province VALUES ('DL','Delhi');

INSERT INTO Province VALUES ('KL','Kolkata');

INSERT INTO Role VALUES ('Right\_Hand\_Batsman');

INSERT INTO Role VALUES ('Keeper\_Batsman');

INSERT INTO Role VALUES ('Left\_Hand\_Batsman');

INSERT INTO Role VALUES ('Keeper\_Right\_Batsman');

INSERT INTO Role VALUES ('All\_Rounder');

INSERT INTO Role VALUES ('Seam\_Bowler');

INSERT INTO Role VALUES ('Bowler\_Batsman');

INSERT INTO Role VALUES ('Seam\_Spin\_Bowler');

INSERT INTO Role VALUES ('Fielder\_Batsman');

INSERT INTO Role VALUES ('Spin\_Bowler');

INSERT INTO Team VALUES ('RCB','Royal\_Challengers\_Banglore',23432,'BLU');

INSERT INTO Team VALUES ('CSK','Chennai\_Super\_Kings',19877,'CHN');

INSERT INTO Team VALUES ('MI','Mumbai\_Indians',21430,'MUM');

INSERT INTO Team VALUES ('PBK','Punjab\_Kings',29800,'PB');

INSERT INTO Team VALUES ('RPS','Rising\_Pune',28977,'PN');

INSERT INTO Team VALUES ('RR','Rajasthan\_Royals',28801,'JP');

INSERT INTO Team VALUES ('GL','Gujarat\_Lions',20010,'AHD');

INSERT INTO Team VALUES ('SRH','Sunrises\_Hyderabad',21987,'HYD');

INSERT INTO Team VALUES ('DC','Delhi\_Capitals',30001,'DL');

INSERT INTO Team VALUES ('KKR','Kolkata\_Knight\_Riders',29776,'KL');

INSERT INTO Player VALUES (70,'Virat','Kohli',32,'Delhi','RCB',23432,'Right\_Hand\_Batsman');

INSERT INTO Player VALUES (07,'Mahendra Singh','Dhoni',40,'Ranchi','CSK',19877,'Keeper\_Batsman');

INSERT INTO Player VALUES (13,'Rohit','Sharma',34,'Nagpur','MI',21430,'Left\_Hand\_Batsman');

INSERT INTO Player VALUES (01,'KL','Rahul',29,'Bengaluru','PBK',29800,'Keeper\_Right\_Batsman');

INSERT INTO Player VALUES (33,'Hardik','Pandya',27,'Surat','MI',21430,'All\_Rounder');

INSERT INTO Player VALUES (57,'Jaspreet','Bumrah',27,'Ahmdabad','MI',21430,'Seam\_Bowler');

INSERT INTO Player VALUES (27,'Suresh','Raina',34,'Ghaziabad','CSK',20010,'Bowler\_Batsman');

INSERT INTO Player VALUES (40,'Yuvraj','Singh',39,'Chandigarh','SRH',21987,'Seam\_Spin\_Bowler');

INSERT INTO Player VALUES (100,'Prithvi','Shaw',21,'Palgarh','DC',30001,'Fielder\_Batsman');

INSERT INTO Player VALUES (50,'Kuldeep','Yadav',26,'Kanpur','KKR',29776,'Spin\_Bowler');

**#4 Query Files**

1. **Union query**

**SELECT** Team\_Name **FROM** Team

**WHERE** Team\_Code = 'MI'

**UNION**

**SELECT** Player\_Fname **FROM** Player

**WHERE** Team\_Code = 'MI'

**ORDER BY** Team\_Name;

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1. **Metadata query**

**SELECT DISTINCT** column\_name, data\_type, character\_maximum\_length

**FROM** INFORMATION\_SCHEMA.COLUMNS

**WHERE** TABLE\_NAME = 'player' OR

TABLE\_NAME = 'team' OR

TABLE\_NAME = 'manager' OR

TABLE\_NAME = 'province' OR

**Table

Description automatically generated with medium confidence**TABLE\_NAME = 'role';

1. **Excel converted file .csv**

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1. **Views query**

**CREATE VIEW** Viewteam **AS**

**SELECT** Team\_code **AS** T\_code, Team\_name **AS** T\_name, Manager\_Id **AS** Man\_Id, province\_code **AS** p\_code

**FROM** Team;

**CREATE VIEW** Viewplayer **AS**

**SELECT** Player\_Id **AS** P\_Id, Player\_Fname **AS** P\_Firstname, Player\_Lname **AS** P\_lastname, Payer\_Age **AS** P\_age, Player\_Birth\_Place **AS** P\_birth\_place, Team\_Code **AS** T\_code, Manager\_Id **AS** Man\_Id, Player\_Role\_Name **AS** P\_role\_name

**FROM** Player;

1. **Sub-query**

/\* Assignment 02

Name - Neeraj Bansal, Akshit Sabharwal, Varsha Sundernath

Course - CST8215\_301

Date - Aug 06, 2021

\*/

--Union

SELECT Team\_Name FROM Team

WHERE Team\_Code = 'MI'

UNION

SELECT Player\_Fname FROM Player

WHERE Team\_Code = 'MI'

ORDER BY Team\_Name;

--Views

CREATE VIEW Viewteam AS

SELECT Team\_code AS T\_code, Team\_name AS T\_name, Manager\_Id AS Man\_Id, province\_code AS p\_code

FROM Team;

CREATE VIEW Viewplayer AS

SELECT Player\_Id AS P\_Id, Player\_Fname AS P\_Firstname, Player\_Lname AS P\_lastname, Payer\_Age AS P\_age, Player\_Birth\_Place AS P\_birth\_place, Team\_Code AS T\_code, Manager\_Id AS Man\_Id, Player\_Role\_Name AS P\_role\_name

FROM Player;

--Joins

Manager.Manager\_Id,Manager.Manager\_Name,Player.Player\_Id,Player.Player\_Fname,Player.Player\_Lname,Player.Manager\_Id

FROM Player LEFT OUTER JOIN Manager

ON Player.Manager\_Id = Manager.Manager\_Id

WHERE Manager.Manager\_Id IS NOT NULL;

SELECT Province.Province\_Code,Province.Province\_name,Team.Team\_Code,Team.Team\_Name,Team.Province\_code

FROM Province RIGHT OUTER JOIN Team

ON Province.Province\_Code = Team.Province\_code

WHERE Province.Province\_name IS NOT NULL;

--Metadata

SELECT DISTINCT column\_name, data\_type, character\_maximum\_length

FROM INFORMATION\_SCHEMA.COLUMNS

WHERE TABLE\_NAME = 'player' OR

TABLE\_NAME = 'team' OR

TABLE\_NAME = 'manager' OR

TABLE\_NAME = 'province' OR

TABLE\_NAME = 'role';

--Subquery

--1

SELECT Player\_Fname, Player\_Lname, Team\_Code

From Player

WHERE Team\_Code IN (

SELECT Team\_Code

From Team

WHERE Manager\_Id IN (

SELECT Manager\_Id

From Manager

WHERE Manager\_Name = 'Amit\_Shah') )

--2

SELECT Player\_Fname, Player\_Lname, Team\_Code

From Player

WHERE Team\_Code IN (

SELECT Team\_Code

From Team

WHERE Province\_Code IN (

SELECT Province\_Code

From Province

WHERE Province\_Code = 'PB') )

1. **Joins query**

**SELECT** Manager.Manager\_Id,Manager.Manager\_Name,Player.Player\_Id,Player.Player\_Fname,Player.Player\_Lname,Player.Manager\_Id

**FROM** Player **LEFT** **OUTER** **JOIN** Manager

**ON** Player.Manager\_Id = Manager.Manager\_Id

**WHERE** Manager.Manager\_Id **IS** **NOT** NULL;

Table

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**SELECT** Province.Province\_Code,Province.Province\_name,Team.Team\_Code,Team.Team\_Name,Team.Province\_code

**FROM** Province **RIGHT** **OUTER** **JOIN** Team

**ON** Province.Province\_Code = Team.Province\_code

**WHERE** Province.Province\_name **IS** **NOT** NULL;

Table

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1. **Reverse Engineer**

**.dbm**

**Diagram

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**Graphical user interface, application

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