**BPL Management System 01**

**Business and System summary**

BPL Management System database has been developed which can be use for business purpose. This database can be use for electronic commerce system which is simple & secure for users. This system will provide information about BPL where anyone can know about the BPL tournament player’s information, club information, match information, sponsor’s information, jersey information, match details information and venue details information from website. In this database management system it can manages its entire club’s data, player data, match data, stadium data, sponsor data & others necessary data. Management can add, delete or modify their data. It is very difficult to see any data which kept in different folder. By this database management system management can see any data by a simple query.

**Overview of the Business Environment and Project Objectives**

* **Business Environment**

The project BPL Management System has been developed based on the database. There are many software where we keep our database records. We are using ORACLE 10g Express Edition to keep our database records which is one of the best & easiest software in the world. Oracle applications comprise business software of the Oracle Corporation. Oracle’s technological advantage has helped us to changing the business environment & market competition. We have successfully developed a secure platform for our database project through this software.

* **Project Objectives**

1. To view the details of a club
2. To view the details of players
3. Owners can know about players
4. To keep all data of venue & matches in a database
5. To view all data of a tournament easily to the viewers

**02**

**Technical summarization of our developed database**

At first I got knowledge about database management system from our classes. Then I got a project for Introduction to Database course. Then I design an ER diagram on Cricket Tournament management System (Bangladesh Premier League) from the knowledge I got earlier and normalized the ER diagram up to 3rd Normal Form. Using that normalized form I obtained a relationship table (Schema) with data type and used Data Definition Language (DDL) to create table with their columns and data type. Then I collected values from espncricinfo.com and inserted the values into the table to get the desire database System.

**Justification of the project objectives and how it will support the business**

It is easily ensuring the data can be kept easily with data redundancy. There are 8 tables which is designed to keep all the data and show by a simple query as we done it in the below part. There is no need to keep data in folders. I have justified it in the below parts how it works and how it meets the requirements. Now come to the business point, it meets the business requirements by showing the data to viewers easily. This database can be used in website to view the details of the tournaments. Franchise can see their desired player details like name, age, price, playing role etc.

**NORMALIZATION 04**

**Has-1**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Id** | Name | Owner | **S\_Id** | S\_Name | Amount |

Id, S\_Id Name, Owner, S\_Name, Amount

Id Name, Owner

S\_Id S\_Name, Amount

**1NF**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Id** | Name | Owner | **S\_Id** | S\_Name | Amount |

**2NF**

**Club**

|  |  |  |
| --- | --- | --- |
| **Id** | Name | Owner |

**Sponsor**

|  |  |  |  |
| --- | --- | --- | --- |
| **S\_Id** | S\_Name | Amount | **Id** |

**Belongs**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Id** | Name | Owner | **P\_Id** | P\_name | Age |
| Playing\_Role | Batting\_Style | Bowling\_style | Type | Price |

Id, P\_Id Name, Owner, P\_Name, age, Playing\_role, Batting\_style, Bowling\_Style, Bowling\_style, type,price **05**

Id Name, Owner

P\_Id P\_name, Age, Playing\_role, Batting\_style, Bowling\_style,

Type, Price

**1NF**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Id** | Name | Owner | **P\_Id** | P\_name | Age |
| Playing\_Role | Batting\_Style | Bowling\_style | Type | Price |

**2NF**

**Club**

|  |  |  |
| --- | --- | --- |
| **Id** | Name | Owner |

**Player**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **P\_Id** | P\_name | Age | Playing\_Role | Batting\_style |
| Bowling\_style | Type | Price | **Id** |

**Gives**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S\_Id** | S\_name | Amount | **J\_no** | Colour |

S\_Id, J\_no S\_name, Amount, Colour

S\_Id S\_name, Amount

J\_no Colour **06**

**1NF**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S\_Id** | S\_name | Amount | **J\_no** | Colour |

**2NF**

**Sponsor**

|  |  |  |  |
| --- | --- | --- | --- |
| **S\_Id** | S\_name | Amount | **J\_no** |

**Joursey**

|  |  |
| --- | --- |
| **J\_no** | Colour |

**Has-2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **P\_Id** | P\_name | Age | Playing\_Role | Batting\_style |
| Bowling\_style | Type | Price | **J\_no** | Colour |

P\_Id, J\_no P\_name, Age, Batting\_style, Playing\_Role, Type, Bowling\_style, Price, Colour

P\_Id P\_name, Age, Batting\_style, Playing\_role, type,

Bowling\_style, Price.

J\_no Colour

**1NF**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **P\_Id** | P\_name | Age | Playing\_Role | Batting\_style |
| Bowling\_style | Type | Price | **J\_no** | Colour |

**2NF**

**Player**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **P\_Id** | P\_name | Age | Playing\_Role | Batting\_style |
| Bowling\_style | Type | Price | **J\_no** |

**Joursey**

|  |  |
| --- | --- |
| **J\_no** | Colour |

**Play**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Id** | Name | Owner | **M\_Id** | M\_type | Amp | Mom |
| Over | Wicket | Run | Team\_A | Team\_B |

Id, M\_Id Name, Owner, M\_id, M\_type, Amp, Mom, Over,

Wicket, Run, Team\_A, Team\_B

Id Name, Owner.

M\_Id M\_type, Amp, Mom, Over, Wicket, Run, Team\_A, Team\_B

**1NF**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Id** | Name | Owner | **M\_Id** | M\_type | Amp | Mom |
| Over | Wicket | Run | Team\_A | Team\_B |

**2NF 08**

**Club**

|  |  |  |
| --- | --- | --- |
| **Id** | Name | Owner |

**Match**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **M\_Id** | M\_type | Amp | Mom | Over | Wicket | Run |
| Team\_A | Team\_B | **Id** |

**Playing**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Std\_Id** | Std\_name | Location | Capacity | **M\_Id** | M\_type |
| Amp | Run | Team\_A | Team\_B | Over | Mom |

Std\_Id, M\_Id Std\_name, Location, Capacity

M\_type, Amp, Run, Team\_A, Team\_B, Over, Mom

Std\_Id Std\_name, Location, Capacity

M\_Id M\_type, Amp, Run, Team\_A, Team\_B, Over, Mom

**1NF**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Std\_Id** | Std\_name | Location | Capacity | **M\_Id** | M\_type |
| Amp | Run | Team\_A | Team\_B | Over | Mom |

**2NF**

**Stadium 09**

|  |  |  |  |
| --- | --- | --- | --- |
| **Std\_Id** | Std\_name | Location | Capacity |

**Match**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Std\_Id** | Std\_name | Location | Capacity | **M\_Id** | M\_type |
| Amp | Run | Team\_A | Team\_B | Over | Mom |

**Venue\_Details**

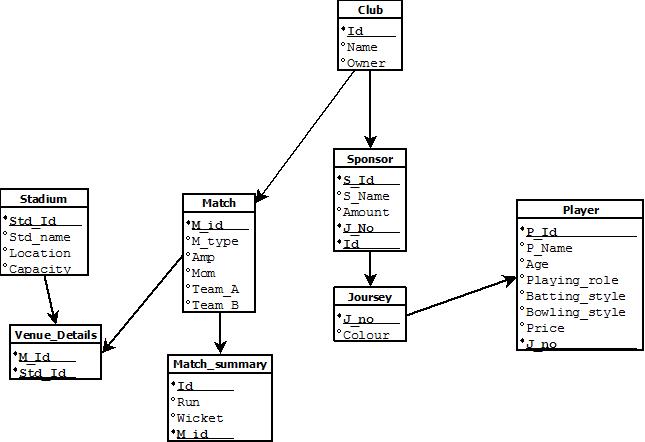
|  |  |
| --- | --- |
| **M\_Id** | **Std\_Id** |

**3NF**

**Match\_summary**

|  |  |  |  |
| --- | --- | --- | --- |
| **Id** | Run | Wicket | **M\_Id** |

**Relationship Diagram 10**



CREATE TABLE Club(

Id NUMBER(6),

Name VARCHAR2(25),

Owner VARCHAR2(30),

CONSTRAINT Club\_Id\_PK PRIMARY KEY (Id)

);

--

CREATE TABLE Player(

P\_Id NUMBER(6),

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P\_Name VARCHAR2(20),

Age NUMBER(20),

Playing\_role VARCHAR2(30),

Batting\_style VARCHAR2(30),

Bowling\_style VARCHAR2(30),

Price NUMBER(10),

J\_No NUMBER(6),

CONSTRAINT Player\_Id\_PK PRIMARY KEY (P\_Id),

CONSTRAINT Player\_JNo\_FK FOREIGN KEY (J\_No) REFERENCES Joursey (J\_No)

);

--

CREATE TABLE Joursey(

J\_No NUMBER(6),

Color VARCHAR2(25),

CONSTRAINT Joursey\_JNo\_PK PRIMARY KEY (J\_No)

);

--

CREATE TABLE Stadium(

Std\_Id NUMBER(6),

Std\_name VARCHAR2(40),

Location VARCHAR2(20),

Capacity NUMBER(10),

CONSTRAINT Stadium\_Std\_Id\_PK PRIMARY KEY (Std\_Id)

);

**12**

CREATE TABLE Match(

M\_Id NUMBER (6),

M\_type VARCHAR2 (10),

Amp VARCHAR2 (20),

Mom VARCHAR2 (20),

Team\_A VARCHAR2 (20),

Team\_B VARCHAR2 (20),

CONSTRAINT Match\_M\_Id\_PK PRIMARY KEY (M\_Id)

);

CREATE TABLE Sponsor(

S\_Id NUMBER (6),

S\_Name VARCHAR2(25),

Amount NUMBER (10),

CONSTRAINT S\_Id\_PK PRIMARY KEY (S\_Id),

J\_No NUMBER (6),

Id NUMBER(6),

CONSTRAINT Sponsor\_JNo\_FK FOREIGN KEY (J\_No) REFERENCES Joursey (J\_No),

CONSTRAINT Sponsor\_Id\_FK FOREIGN KEY (Id) REFERENCES Club (Id)

);

CREATE TABLE Vanue\_Details (

Std\_Id NUMBER (10),

M\_Id NUMBER (10),

CONSTRAINT Vanue\_Details\_StdId\_FK FOREIGN KEY (Std\_Id) REFERENCES Stadium (Std\_Id),

CONSTRAINT Vanue\_Details\_MId\_FK FOREIGN KEY (M\_Id) REFERENCES Match (M\_Id)

**13**

);

--

CREATE TABLE Match\_summary(

Run NUMBER (5),

Wicket NUMBER (4),

Id NUMBER (6),

M\_Id NUMBER(6),

CONSTRAINT Match\_summary\_Id\_FK FOREIGN KEY (Id) REFERENCES Club (Id),

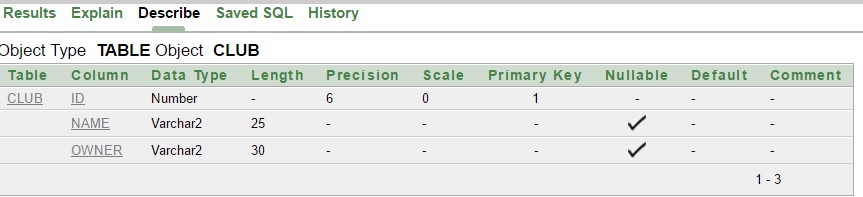
CONSTRAINT Match\_summary\_Mid\_FK FOREIGN KEY (M\_id) REFERENCES Match (M\_id)

);

**Description of each table (Screenshot)**

**Club:**

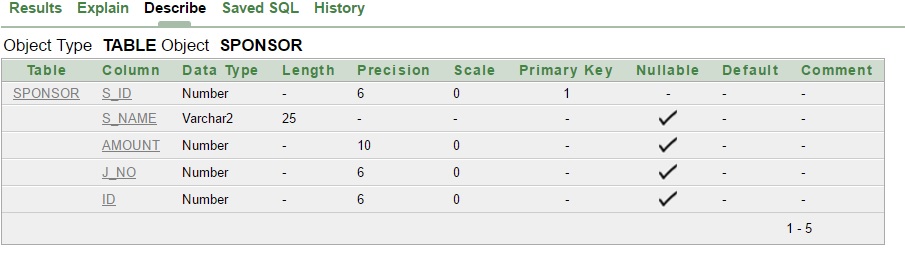
Desc club;



**Sponsor:**

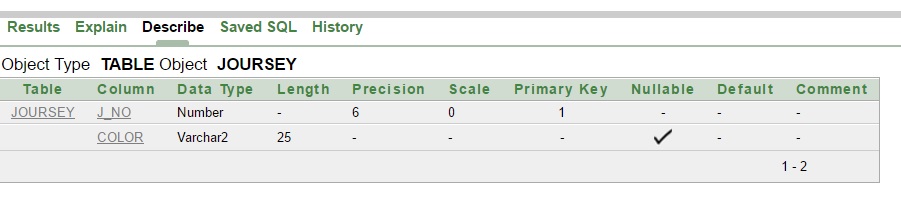
Desc sponsor;

**14**



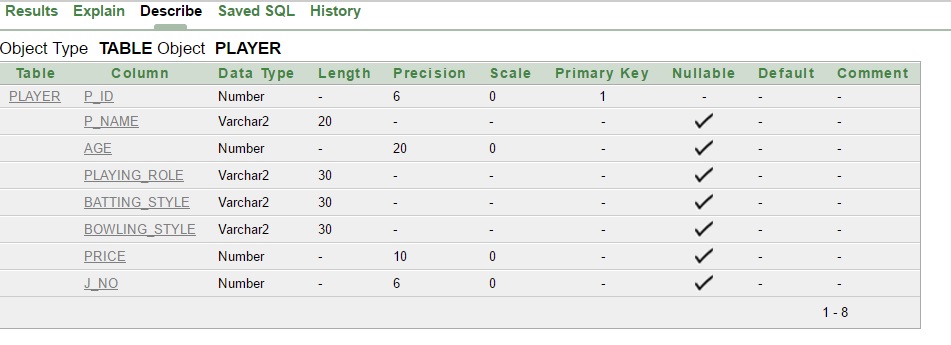
**Joursey:**

Desc joursey;



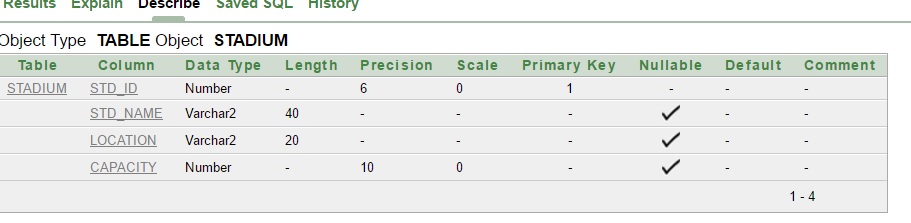
**Player:**

Desc player;



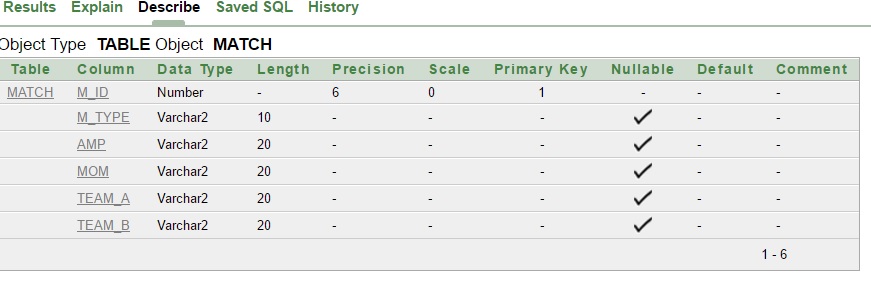
**Stadium: 15**

Desc stadium;



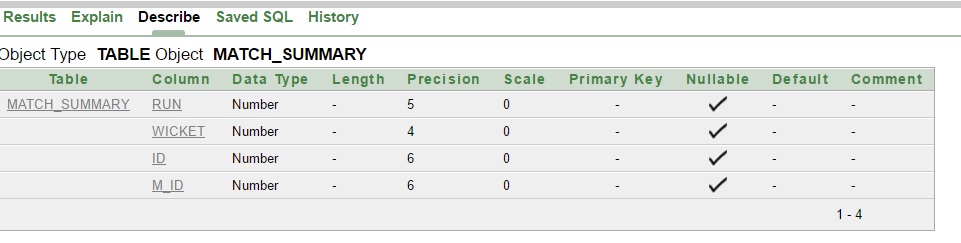
**Match:**

Desc match;



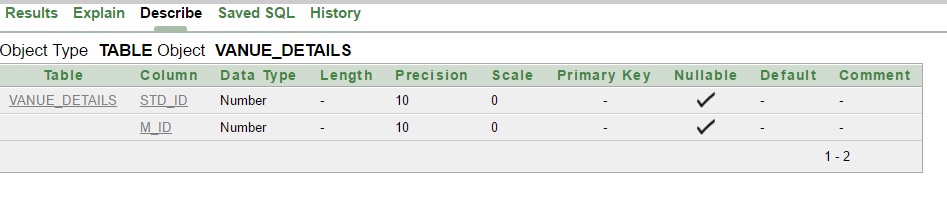
**Match\_summary:**

Desc match\_summary;



**Vanue\_details: 16**

Desc vanue\_details;



**Table with data (Screenshot)**

**Club:**

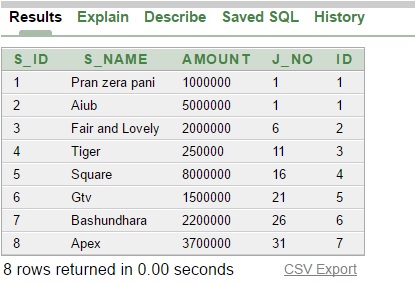
Select \* from club;



**17**

**Sponsor:**

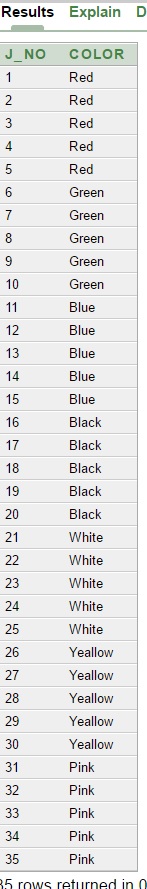
Select \* from sponsor;



**18**

**Joursey:**

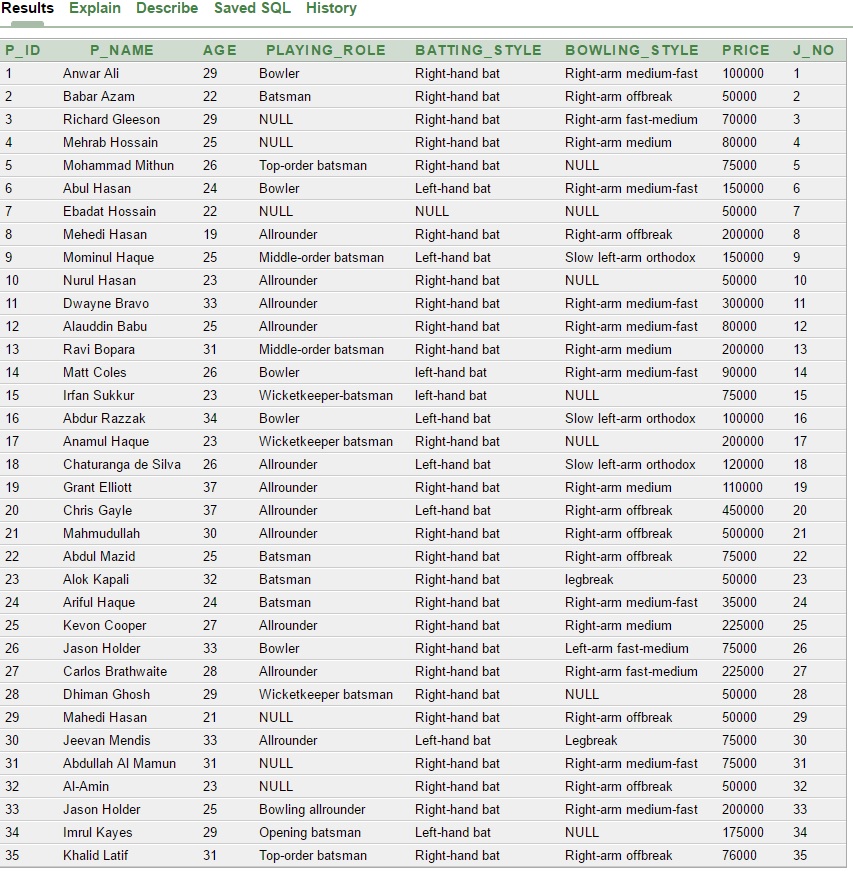
Select \* from joursey;

****

**19**

**Player:**

Select \* from player;



**20**

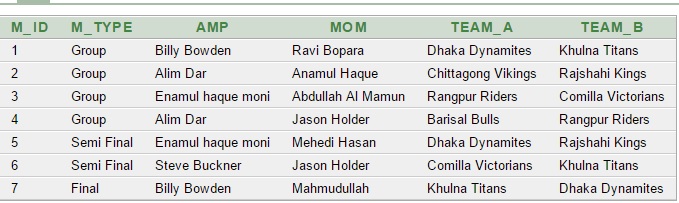
**Stadium:**

Select \* from stadium;



**Match:**

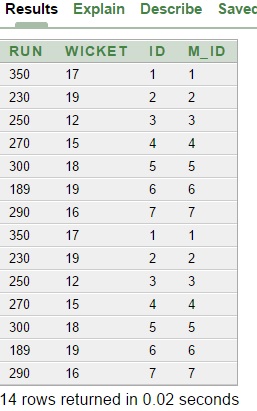
Select \* from match;



**21**

**Match\_summary:**

Select \* from match\_summary



**Vanue\_details:**

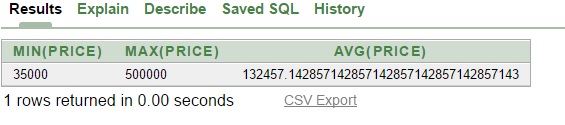
Select \* from vanue\_details;



**22** **User Questionnaire & SQL queries based on that**

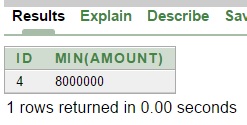
1. Display the highest, lowest, and average price of the players.

**Ans:** select min(price), max(price), avg(price) from player;



2. Display the club Id and minimum Sponsored amount for each club id, for all club id whose minimum amount is greater than 5000000.

**Ans:** select id, min(amount) from sponsor group by id having min(amount)>5000000;



3. Display Id, Name, age, batting style for each player who are right handed batsman.

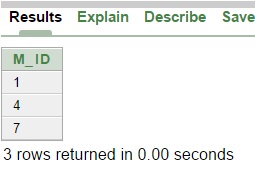
**Ans:** select p\_id, p\_name, age, batting\_style from player where batting\_style='Right-hand bat';

**23**



4. Display the match id whose stadium capacity is greater than 230000.

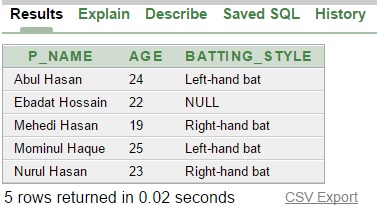
**Ans:** select m\_id from vanue\_details where std\_id=(select std\_id from stadium where capacity>23000);



5. Display the player name age and batting style whose joursey color is green.

**Ans:** select p\_name, age, batting\_style from player where j\_no in (select j\_no from joursey where color='Green');

**24**



6. Display the teams whose run is greater than 300.

**Ans:** select team\_a, team\_b from match where m\_id in (select m\_id from match\_summary where run>300);



7. Display the name and owner of the club where in a match team a=Khulna titans.

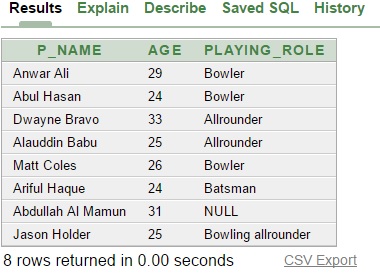
**Ans:** select name, owner from club where id in (select id from match\_summary where m\_id=(select m\_id from match where team\_a='Khulna Titans'));



8. Display the player name, age and playing role for those players whose bowling style is 'Right-arm medium-fast.

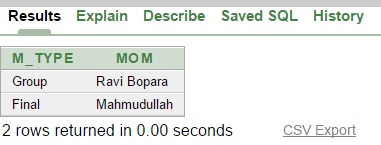
**Ans:** select p\_name, age, playing\_role from player where bowling\_style='Right-arm medium-fast';

**25**



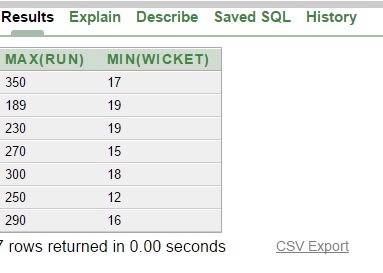
9. Display match type and man of the match where umpire is Billy Bowden.

**Ans:** select m\_type, mom from match where amp='Billy Bowden';



10. Display maximum run and minimum wicket for each id.

**Ans:** select max(run), min(wicket) from match\_summary group by id;



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**Views**

**Simple View:**

* create view club\_name as (select name from club);
* select \* from club\_name;
* create view player\_info as (select p\_name, age, batting\_style, bowling\_style, price from player);
* select \* from player\_info;
* create view std\_info as (select std\_name, location, capacity from stadium);
* select \* from std\_info;

**Complex View:**

* create view club\_info as (select name, owner from club where id in(select id from match\_summary where m\_id=(select m\_id from match where team\_b='Comilla Victorians')));
* select \* from club\_info;
* create view club\_sponsor as (select c.name, s.s\_name from club c, sponsor s where c.id=s.id and s.s\_name='Apex');
* select \* from club\_sponsor;