

Project Name: BPL MANAGEMENT SYSTEM PREPARED FOR

Course Teacher: NASHIA AHMED NABILA

Course Name: Introduction to Database

PREPARED BY:

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SECTION: B

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PART-A 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, joursey 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.

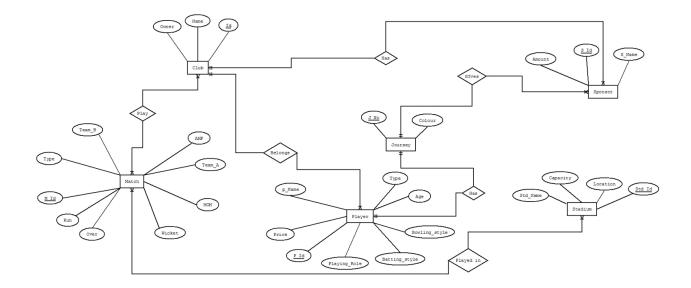
Project Objectives

- 1. To view the details of a club
- 2. To view the details of players
- 3. Owner's 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

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



Has-1

<u>Id</u>	Name	Owner	S_Id	S_Name	Amount

Id, S_Id — Name, Owner, S_Name, Amount

Id ____ Name, Owner

S_Id → S_Name, Amount

1NF

<u>Id</u>	Name	Owner	S_Id	S_Name	Amount

2NF

Club

Id	Name	Owner

Sponsor

S_Id	S_Name	Amount	<u>Id</u>
------	--------	--------	-----------

Belongs

<u>Id</u>	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

<u>Id</u>	Name	Owner	P_Id	P_name	Age
Playing_Role	Batting_Style	Bowling_style	Type	Price	

2NF

Club

<u>Id</u>	Name	Owner

Player

P_Id	P_name	Age	Playing_Role	Batting_style
Bowling_style	Type	Price	<u>Id</u>	

Gives

S_Id	S_name	Amount	<u>J_no</u>	Colour

S_Id, J_no ____ S_name, Amount, Colour

S_Id → S_name, Amount

1NF

<u>S_Id</u>	S_name	Amount	<u>J_no</u>	Colour

06

2NF

Sponsor

S_Id	S_name	Amount	<u>J_no</u>
------	--------	--------	-------------

Joursey

<u>J_no</u>	Colour

Has-2

P_Id	P_name	Age	Playing_Role	Batting_style
Bowling_style	Type	Price	<u>J_no</u>	Colour

 $P_Id, J_no \qquad _P_name, Age, Batting_style, Playing_Role, Type, Bowling_style, Price, Colour$

P_Id ——P▶name, Age, Batting_style, Playing_role, type,

Bowling_style, Price.

J_no —Golour

1NF

P_Id	P_name	Age	Playing_Role	Batting_style

Bowling_style	Type	Price	<u>J_no</u>	Colour

2NF

Player

P_Id	P_name	Age	Playing_Role	Batting_style
Bowling_style	Type	Price	<u>J_no</u>	

Joursey

<u>J_no</u>	Colour

Play

<u>Id</u>	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

<u>Id</u>	Name	Owner	M_Id	M_type	Amp	Mom
Over	Wicket	Run	Team_A	Team_B		

2NF 08

Club

<u>Id</u>	Name	Owner

Match

M_Id	M_type	Amp	Mom	Over	Wicket	Run
Team_A	Team_B	<u>Id</u>				

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

 $M_Id \longrightarrow M_type$, 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

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

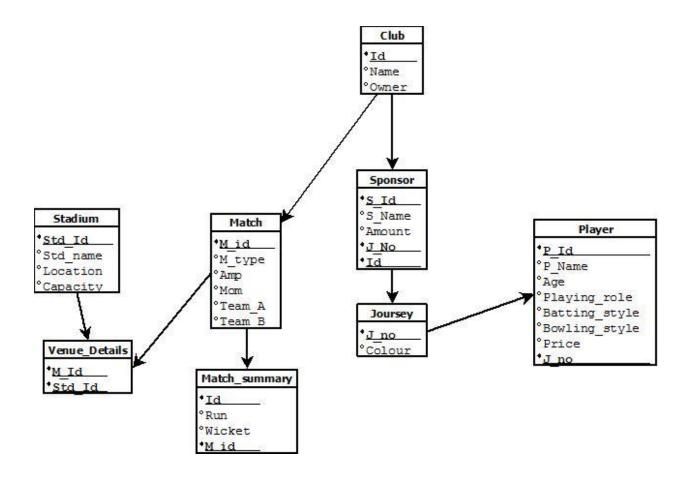
Venue_Details

M_Id	Std_Id

3NF

Match_summary

<u>Id</u>	Run	Wicket	M_Id



```
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),
```

```
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)
);
```

```
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),
```

```
);
--

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;

Results	Explain	Describe Sav	red SQL H	History						
Object Type TABLE Object CLUB										
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment	
CLUB	<u>ID</u>	Number	+	6	0	1	+	-	+	
	NAME	Varchar2	25	-	-	-	/	+	+	
	OWNER	Varchar2	30		12	620	/	12	2	
									1 - 3	

Sponsor:

Desc sponsor;

Results Explain Describe Saved SQL History

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SPONSOR	S_ID	Number	-	6	0	1	-	-	_
	S_NAME	Varchar2	25	12	120	421	/	2	2
	AMOUNT	Number	-	10	0	18.0	/	-	-
	J_NO	Number	4	6	0	141	/	-	-
	ID	Number		6	0	120	/		

Joursey:

Desc joursey;

Object Type TABLE Object JOURSEY										
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment	
JOURSEY	J_NO	Number		6	0	1	15.1	-	ST .	
	COLOR	Varchar2	25	-		-	/	180	1	

Player:

Desc player;

Results	Explain Describe	Saved SQL	History						
Object Ty	pe TABLE Object	PLAYER							
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
PLAYER	P_ID	Number		6	0	1	-7	-	-
	P_NAME	Varchar2	20	-	-	-	/	1-1	-
	AGE	Number	: 4	20	0	-	/		41
	PLAYING_ROLE	Varchar2	30	-	-	-	/	1.5	17.0
	BATTING_STYLE	Varchar2	30	-	-	-	/		-
	BOWLING_STYLE	Varchar2	30	2	2	-	/	-	-
	PRICE	Number	-	10	0	=	/	-	
	J_NO	Number	-	6	0	-	/	-	-
									1 - 8

Stadium:

Desc stadium;

Results Explain Describe Saved SQL History

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
STADIUM	STD_ID	Number	-	6	0	1	-	-	
	STD_NAME	Varchar2	40	-	-		/	-	; -
	LOCATION Varchar2	ON Varchar2 20 -	25		23	/	4	14	
	CAPACITY	Number	1.70	10	0	-	/	9.50	

Match:

Desc match;

Results Explain Describe Saved SQL History

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
MATCH	M_ID	Number	4	6	0	1	-	-	-
	M_TYPE	Varchar2	10	-	12	2	/	2	-
	AMP Varchar2 20	20		8 I	17	/	-	2	
	MOM	Varchar2	20	-	4	: - :	/	-	+
	TEAM_A	Varchar2	20	1211	2	121	/	-	2.
	TEAM_B	Varchar2	20	(e		:=	/	-	-

Match_summary:

Desc match_summary;

bject Type TABL	E Object N	MATCH_SUM	MARY						
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
MATCH_SUMMARY	RUN	Number	-	5	0		/	-	.7
	WICKET	Number	:- :	4	0	(4)	/	-:	÷
	<u>ID</u>	Number	12	6	0	92	/	2	12
	M_ID	Number	-	6	0	S-1	/		-

Vanue_details:

Desc vanue_details;

Object Type TAE	RI F Object	VANUE DE	TAIL S						
Table	Column	Data Type		Precision	Scale	Primary Key	Nullable	Default	Comment
VANUE_DETAILS	STD_ID	Number	-	10	0	12	/	2	() 41
	M_ID	Number		10	0	og .	/	-	-

Table with data (Screenshot)

Club:

Select * from club;

ID	NAME	OWNER
1	Dhaka Dynamites	Ahmed Shayan Fazlur Rahman
2	Khulna Titans	Gemcon Sports
3	Chittagong Vikings	DBL Group
4	Rajshahi Kings	Mango Entertainment Limited
5	Rangpur Riders	Dr. Kazi Ertaza Hassan
6	Comilla Victorians	Nafisa Kamal
7	Barisal Bulls	Axiom Technologies

Sponsor:

Select * from sponsor;

Results	Explain Des	cribe Saveo	SQL H	istor
S_ID	S_NAME	AMOUNT	J_NO	ID
1	Pran zera pani	1000000	1	1
2	Aiub	5000000	1	1
3	Fair and Lovely	2000000	6	2
4	Tiger	250000	11	3
5	Square	8000000	16	4
6	Gtv	1500000	21	5
7	Bashundhara	2200000	26	6
8	Apex	3700000	31	7

Joursey:

Select * from joursey;

Results	Explain
J_NO	COLOR
1	Red
2	Red
3	Red
4	Red
5	Red
6	Green
7	Green
8	Green
9	Green
10	Green
11	Blue
12	Blue
13	Blue
14	Blue
15	Blue
16	Black
17	Black
18	Black
19	Black
20	Black
21	White
22	White
23	White
24	White
25	White
26	Yeallow
27	Yeallow
28	Yeallow
29	Yeallow
30	Yeallow
31	Pink
32	Pink
33	Pink
34	Pink
J-4	1 1111

35 rows returned in 0

Player:

Select * from player;

Results Explain Describe Saved SQL History

P_ID	P_NAME	AGE	PLAYING_ROLE	BATTING_STYLE	BOWLING_STYLE	PRICE	J_NC
1	Anwar Ali	29	Bowler	Right-hand bat	Right-arm medium-fast	100000	1
2	Babar Azam	22	Batsman	Right-hand bat	Right-arm offbreak	50000	2
3	Richard Gleeson	29	NULL	Right-hand bat	Right-arm fast-medium	70000	3
4	Mehrab Hossain	25	NULL	Right-hand bat	Right-arm medium	80000	4
5	Mohammad Mithun	26	Top-order batsman	Right-hand bat	NULL	75000	5
6	Abul Hasan	24	Bowler	Left-hand bat	Right-arm medium-fast	150000	6
7	Ebadat Hossain	22	NULL	NULL	NULL	50000	7
8	Mehedi Hasan	19	Allrounder	Right-hand bat	Right-arm offbreak	200000	8
9	Mominul Haque	25	Middle-order batsman	Left-hand bat	Slow left-arm orthodox	150000	9
10	Nurul Hasan	23	Allrounder	Right-hand bat	NULL	50000	10
11	Dwayne Bravo	33	Allrounder	Right-hand bat	Right-arm medium-fast	300000	11
12	Alauddin Babu	25	Allrounder	Right-hand bat	Right-arm medium-fast	80000	12
13	Ravi Bopara	31	Middle-order batsman	Right-hand bat	Right-arm medium	200000	13
14	Matt Coles	26	Bowler	left-hand bat	Right-arm medium-fast	90000	14
15	Irfan Sukkur	23	Wicketkeeper-batsman	left-hand bat	NULL	75000	15
16	Abdur Razzak	34	Bowler	Left-hand bat	Slow left-arm orthodox	100000	16
17	Anamul Haque	23	Wicketkeeper batsman	Right-hand bat	NULL	200000	17
18	Chaturanga de Silva	26	Allrounder	Left-hand bat	Slow left-arm orthodox	120000	18
19	Grant Elliott	37	Allrounder	Right-hand bat	Right-arm medium	110000	19
20	Chris Gayle	37	Allrounder	Left-hand bat	Right-arm offbreak	450000	20
21	Mahmudullah	30	Allrounder	Right-hand bat	Right-arm offbreak	500000	21
22	Abdul Mazid	25	Batsman	Right-hand bat	Right-arm offbreak	75000	22
23	Alok Kapali	32	Batsman	Right-hand bat	legbreak	50000	23
24	Ariful Haque	24	Batsman	Right-hand bat	Right-arm medium-fast	35000	24
25	Kevon Cooper	27	Allrounder	Right-hand bat	Right-arm medium	225000	25
26	Jason Holder	33	Bowler	Right-hand bat	Left-arm fast-medium	75000	26
27	Carlos Brathwaite	28	Allrounder	Right-hand bat	Right-arm fast-medium	225000	27
28	Dhiman Ghosh	29	Wicketkeeper batsman	Right-hand bat	NULL	50000	28
29	Mahedi Hasan	21	NULL	Right-hand bat	Right-arm offbreak	50000	29
30	Jeevan Mendis	33	Allrounder	Left-hand bat	Legbreak	75000	30
31	Abdullah Al Mamun	31	NULL	Right-hand bat	Right-arm medium-fast	75000	31
32	Al-Amin	23	NULL	Right-hand bat	Right-arm offbreak	50000	32
33	Jason Holder	25	Bowling allrounder	Right-hand bat	Right-arm medium-fast	200000	33
34	Imrul Kayes	29	Opening batsman	Left-hand bat	NULL	175000	34
35	Khalid Latif	31	Top-order batsman	Right-hand bat	Right-arm offbreak	76000	35

Stadium:

Select * from stadium;

STD_ID	STD_NAME	LOCATION	CAPACITY
1	Shere Bangla National Stadium	Dhaka	25000
2	Zahur Ahmed Chowdhury Stadium	Chittagong	22000
3	Sheikh Abu Naser Stadium	Khulna	15000

3 rows returned in 0.00 seconds

CSV Export

Match:

Select * from match;

M_ID	M_TYPE	AMP	MOM	TEAM_A	TEAM_B
1	Group	Billy Bowden	Ravi Bopara	Dhaka Dynamites	Khulna Titans
2	Group	Alim Dar	Anamul Haque	Chittagong Vikings	Rajshahi Kings
3	Group	Enamul haque moni	Abdullah Al Mamun	Rangpur Riders	Comilla Victorians
4	Group	Alim Dar	Jason Holder	Barisal Bulls	Rangpur Riders
5	Semi Final	Enamul haque moni	Mehedi Hasan	Dhaka Dynamites	Rajshahi Kings
6	Semi Final	Steve Buckner	Jason Holder	Comilla Victorians	Khulna Titans
7	Final	Billy Bowden	Mahmudullah	Khulna Titans	Dhaka Dynamites

Match_summary:

Select * from match_summary

Results	Explain	Desc	ribe Save
RUN	WICKET	ID	M_ID
350	17	1	1
230	19	2	2
250	12	3	3
270	15	4	4
300	18	5	5
189	19	6	6
290	16	7	7
350	17	1	1
230	19	2	2
250	12	3	3
270	15	4	4
300	18	5	5
189	19	6	6
290	16	7	7

14 rows returned in 0.02 seconds

Vanue_details:

Select * from vanue_details;

Results	Explain	Describe	Sa
STD_ID	M_ID		
1	1		
2	2		
3	3		
1	4		
3	5		
2	6		
1	7		

7 rows returned in 0.00 seconds

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.

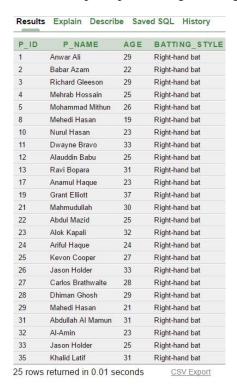
Ans: select id, min(amount) from sponsor group by id having min(amount)>5000000;



1 rows returned in 0.00 seconds

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';



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

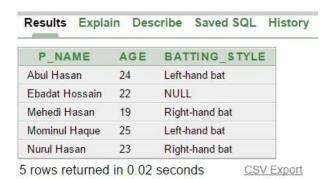
Ans: select m_id from vanue_details where std_id=(select std_id from stadium where capacity>23000);



3 rows returned in 0.00 seconds

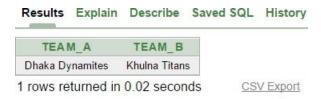
5. Display the player name age and batting style whose joursey color is green.

Ans: select p_name, age, batting_style from player where j_no in (select j_no from joursey where color='Green');



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);



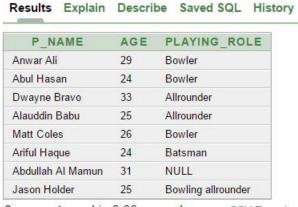
7. Display the name and owner of the club where in a match team a=Khulna titans.

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';



8 rows returned in 0.00 seconds CSV Export

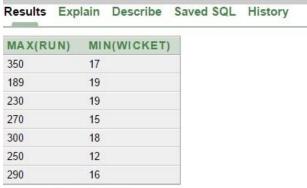
9. Display match type and man of the match where umpire is Billy Bowden.

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;



rows returned in 0.00 seconds

CSV Export

Views

Simple View:

- > create view club_name as (select name from club);
 - select * from club_name;
- reate 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:

- reate 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;

PART-B

We learned a lot from this project. Completing this project is our achievement. We completed this project by the knowledge we have got from our introduction to database course. At first, we faced some problems like how we are going to make ER diagram how to normalize. But our respected course teacher helped us a lot. Our Biggest challenge was to make an ER diagram by using the software name DIA but we solved it by the group work. We also learned the group work that will help us a lot in our job field. It helps us to combined in a group and manage it like a family. It was like a practical work of a job field as we got a project from our boss and we have to submit it in a due to make our client happy. We experienced how challenging it was. But with the help of our course teacher we finished it and we finished it smoothly. When we created all the tables and putted all the values and saw table created and row inserted, we were like 'ohhh yes' we have done it. It is our 1st achievement. Earlier we made query to display data from tables that are already made. But now we are making query to show the data that are made by our own. That makes us happy and now we are thinking we can do something in the future. This project-built confidence between us. Now we are thinking to continue this work for the future. We can see scopes for us in future. We are thinking of doing this kind of project to build practical knowledge. There are advance database management later we want to do it. Now we are thinking big for the future and our confidence level is so high that we can do it in the future also.

At last we want to thank our respected course teacher Nashia Ahmed Nabila mam for the knowledge we have gained from her during the course and for the project.