American International University - Bangladesh

Introduction to database course code 01044

Project Name: Gaming Tournament

Section : B Group-01

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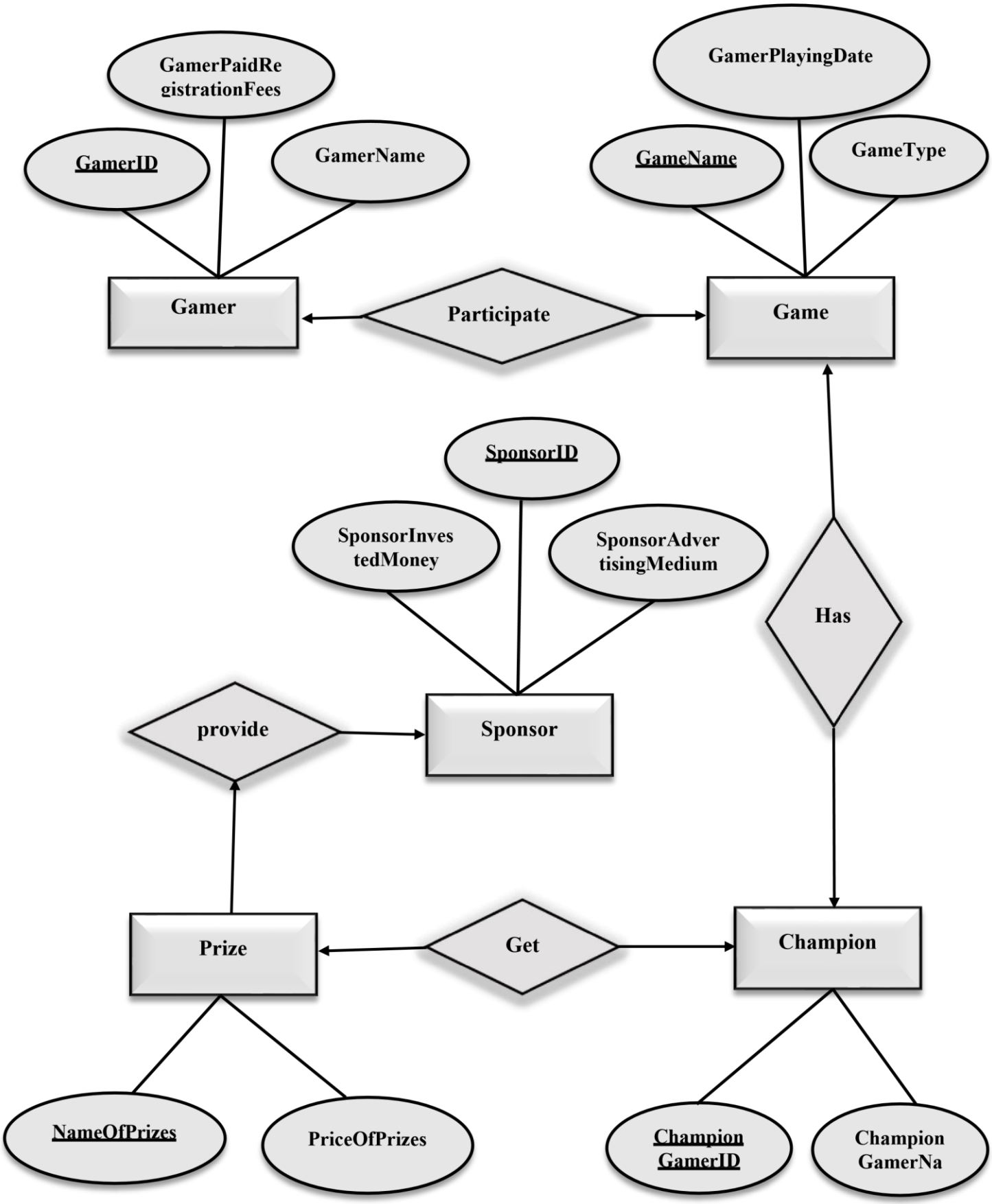
Description:

In a Gaming Tournament, a gamer may participate in many games. One game may have many participates but at least one gamer must be participated in the game. But a gamer must be **participated** in exactly one game. A gamer is identified by a **gamer ID**. The system also stores **name** and **paid registration fees**. For game information **game name, gamer playing date, game type** is stored. Each game **has** exactly one champion. To become champion each champion must participate and win exactly one game. A champion is identified by the **champion gamer ID**. The system also stores **champion gamer name**. Each champion **gets** exactly one prize. Each prize is achieved by exactly one champion. Each prize is identified by the **name of prizes. Price of prizes** is stored also. All prizes name and price will different. There have many prizes. But each prize is provided by exactly one sponsor. Each sponsor must provide exactly one prize. A sponsor is identified by **sponsor ID**. The system also stores **sponsor invested money and advertising medium**. Advertising medium can’t be same.

ER Diagram of Gaming Tournament



Normalization of the ER diagram

Participate:

UNF: **GamerID**, GamerPaidRegistrationFees, GamerName, **GameName**, GamerPlayingDate, GameType

1NF: **GamerID**, **GameName**, GamerPaidRegistrationFees, GamerName, GamerPlayingDate, GameType

2NF:

1st: **GamerID,** GamerName

2nd: **GamerID**, **GameName**, GamerPaidRegistrationFees, GamerPlayingDate, GameType

3NF:

1st: **GamerID(u),** GamerName

2nd: **GamerID**, **GameName**

3rd: **GamerID**, **GamerPaidRegistrationFees**

4th: **GamerPaidRegistrationFees**, GamerPlayingDate, GameType

Has:

UNF: **GameName**, **ChampionGamerID**, GamerPlayingDate, GameType, ChampionGamerName

1NF: **GameName**, **ChampionGamerID**, ChampionGamerName, GamerPlayingDate, GameType

2NF: **GameName**, **ChampionGamerID**, ChampionGamerName, GamerPlayingDate, GameType

3NF: **GameName**, **ChampionGamerID**, ChampionGamerName, GamerPlayingDate, GameType

Get:

UNF: **ChampionGamerID**, **NameOfPrizes**, ChampionGamerName, PriceOfPrizes

1NF: **ChampionGamerID**, **NameOfPrizes**, ChampionGamerName, PriceOfPrizes

2NF: **ChampionGamerID**, **NameOfPrizes**, ChampionGamerName, PriceOfPrizes

3NF: **ChampionGamerID**, **NameOfPrizes**, ChampionGamerName, PriceOfPrizes

Provide:

UNF: **NameOfPrizes**, **SponserID,** PriceOfPrizes, SponsorInvestedMoney, SponsorAdvertisingMedium

1NF: **NameOfPrizes**, **SponserID,** PriceOfPrizes, SponsorInvestedMoney, SponsorAdvertisingMedium

2NF: **NameOfPrizes**, **SponserID,** PriceOfPrizes, SponsorInvestedMoney, SponsorAdvertisingMedium

3NF: **NameOfPrizes**, **SponserID,** PriceOfPrizes, SponsorInvestedMoney, SponsorAdvertisingMedium

Final:

1st(GamerEssentialInfo): **GamerID,** GamerName

2nd(GameEssentialInfo): **GamerID(u)**, **GameName**

3rd(GamingInfo): **GamerID**, **GamerPaidRegistrationFees**

4th(GamerAditionalInfo): **GamerPaidRegistrationFees**, GamerPlayingDate, GameType

5th(ChampionInfo): **GameName**, **ChampionGamerID**, ChampionGamerName, GamerPlayingDate,

GameType

6th(PrizeInfo): **ChampionGamerID**, **NameOfPrizes**, ChampionGamerName, PriceOfPrizes

7th(SponsorInfo): **NameOfPrizes**, **SponserID,** PriceOfPrizes, SponsorInvestedMoney,

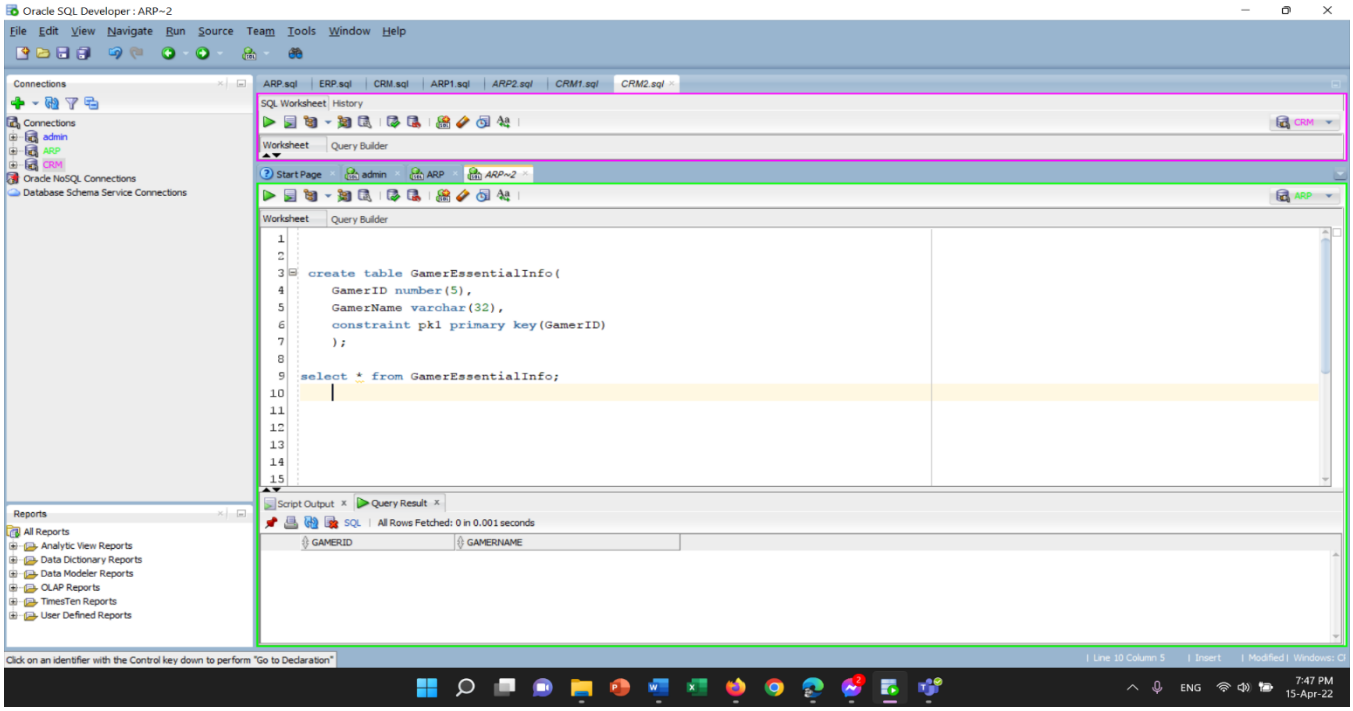
SponsorAdvertisingMedium

5 Table Creation with screenshots.

Query:

1.

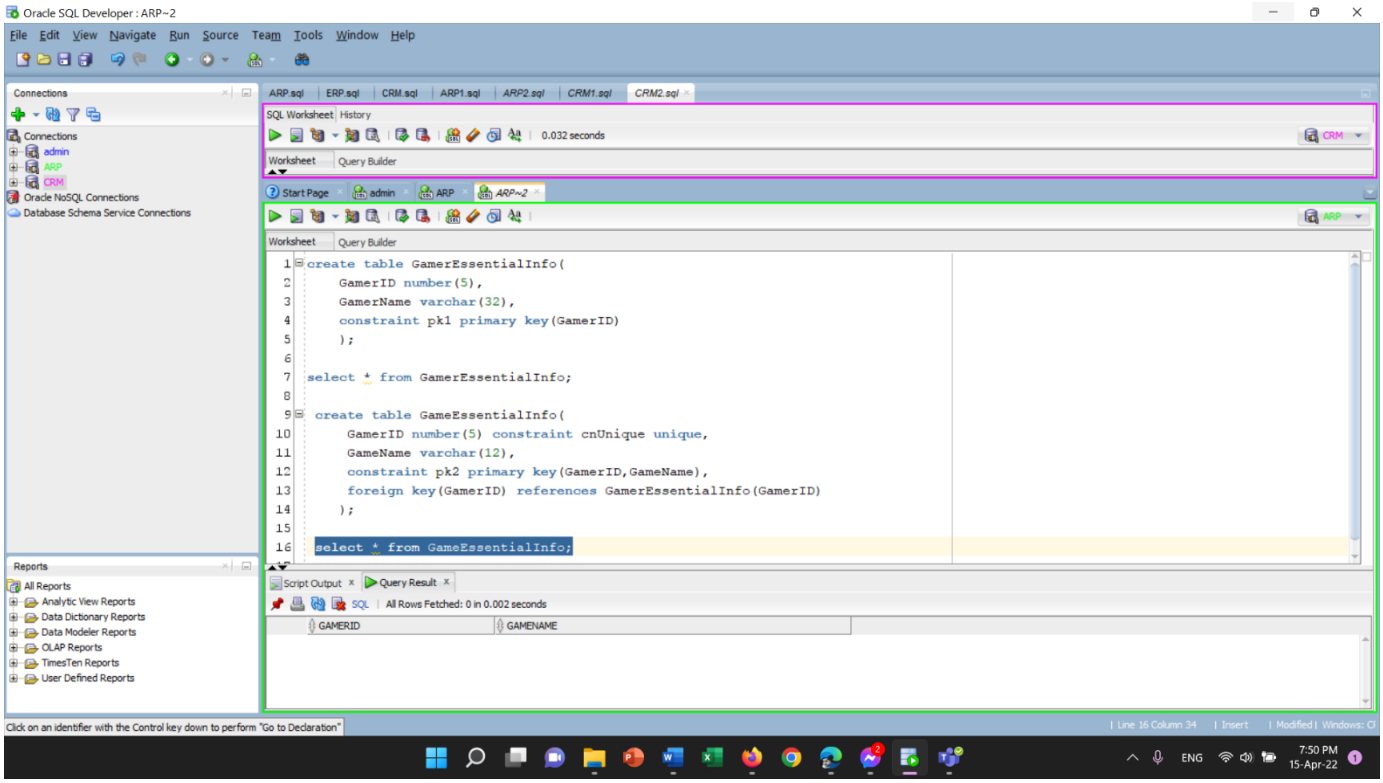
```
create table GamerEssentialInfo(
    GamerID number(5),
    GamerName varchar2(32),
    constraint pk1 primary key(GamerID)
);
select * from GamerEssentialInfo;
```



2.

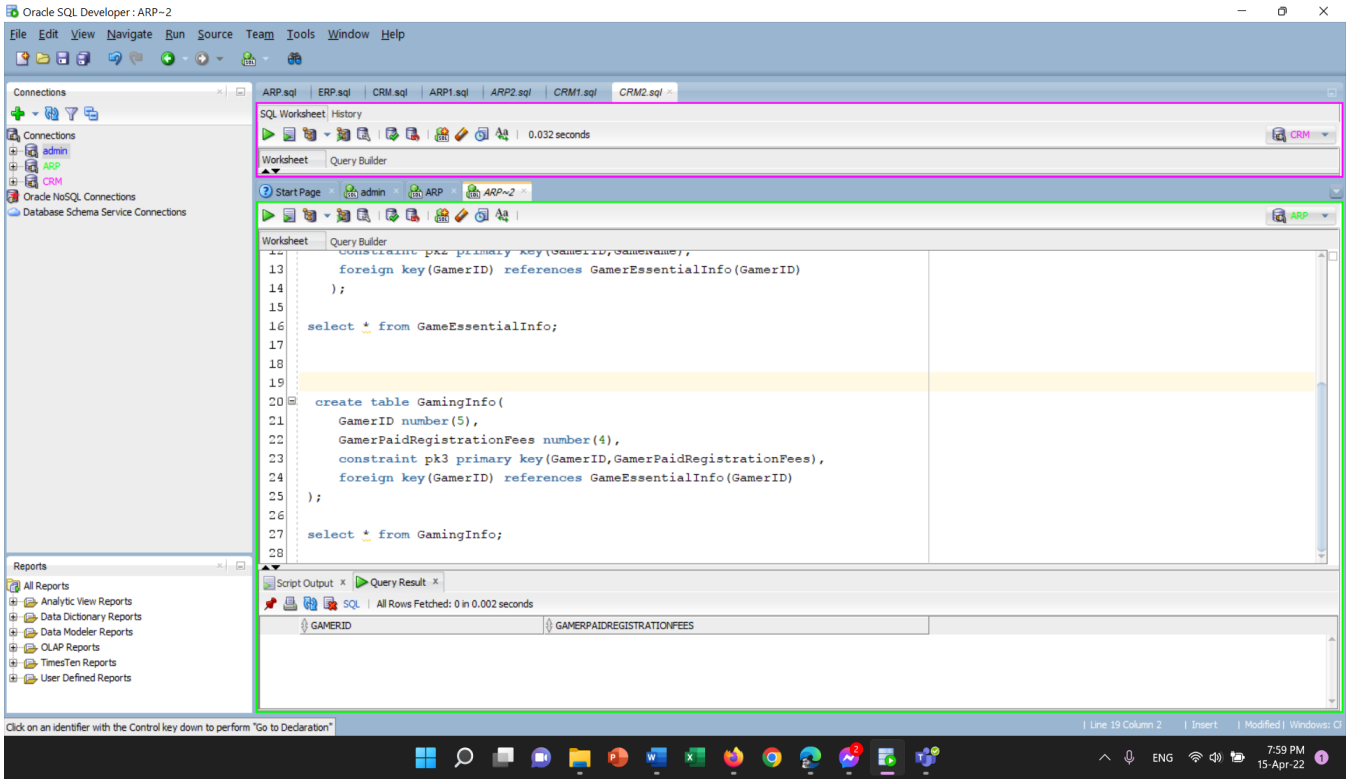
```
create table GameEssentialInfo(
    GamerID number(5) constraint cnUnique unique,
    GameName varchar2(12),
```

```
    constraint pk2 primary key(GamerID,GameName),
    foreign key(GamerID) references GamerEssentialInfo(GamerID)
);
select * from GameEssentialInfo;
```



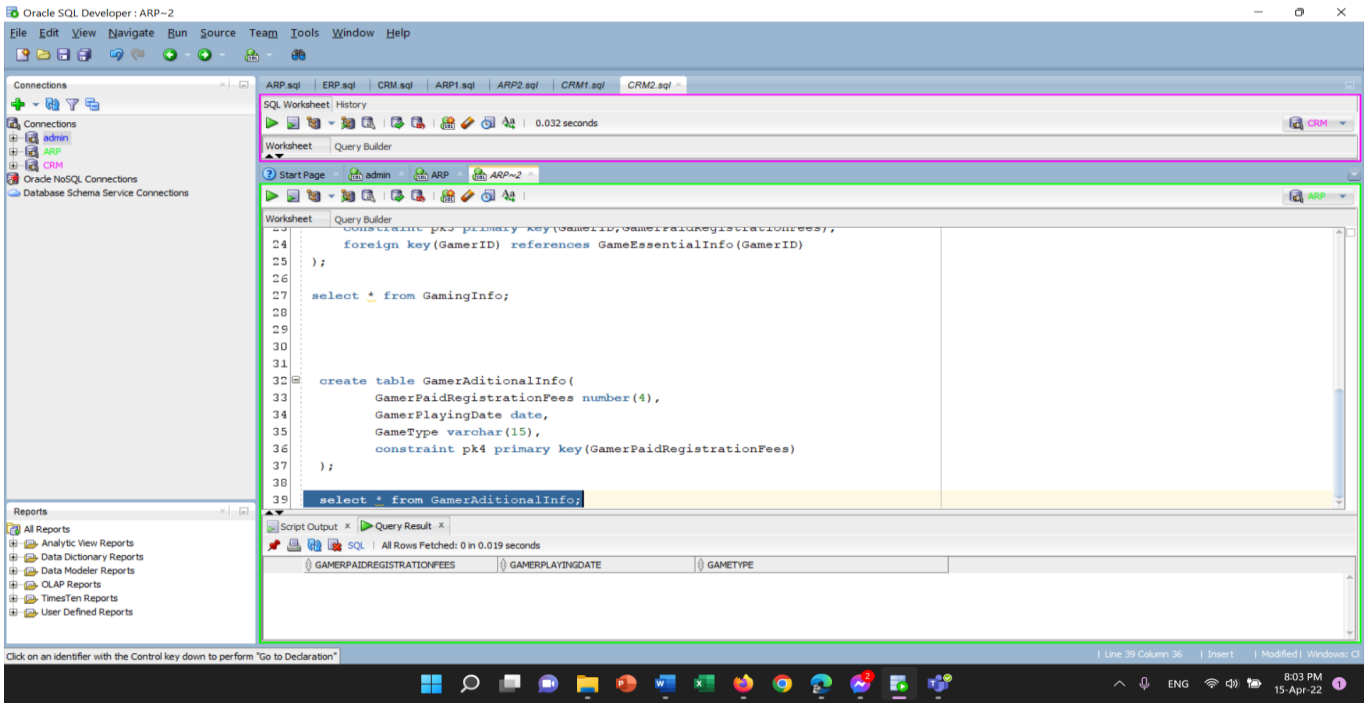
3.

```
create table GamingInfo(
    GamerID number(5),
    GamerPaidRegistrationFees number(4),
    constraint pk3 primary key(GamerID,GamerPaidRegistrationFees),
    foreign key(GamerID) references GameEssentialInfo(GamerID)
 );

 select * from GamingInfo;
```



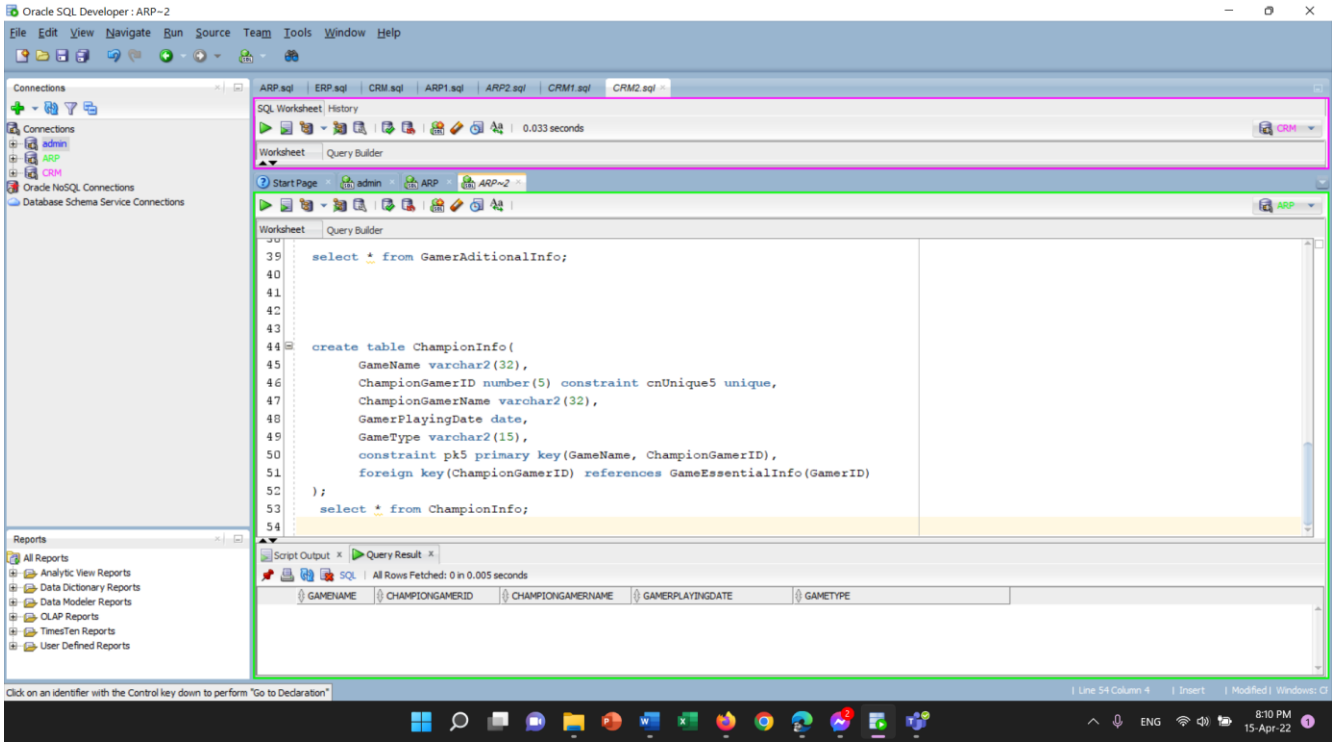
4.

```
create table GamerAditionalInfo(
        GamerPaidRegistrationFees number(4),
        GamerPlayingDate date,
        GameType varchar(15),
        constraint pk4 primary key(GamerPaidRegistrationFees)
);

select * from GamerAditionalInfo;
```



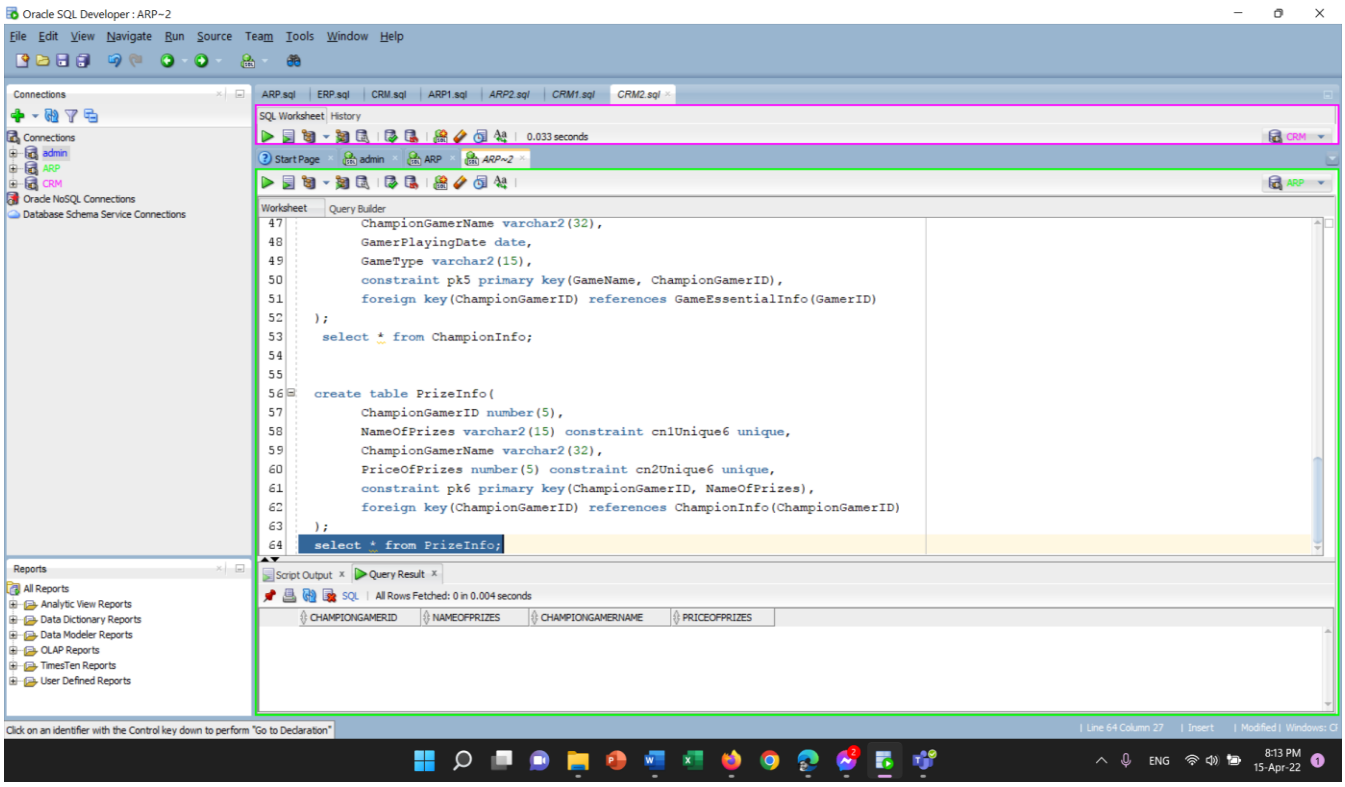
5.

```
create table ChampionInfo(
        GameName varchar2(32),
        ChampionGamerID number(5) constraint cnUnique5 unique,
        ChampionGamerName varchar2(32),
        GamerPlayingDate date,
        GameType varchar2(15),
        constraint pk5 primary key(GameName, ChampionGamerID),
        foreign key(ChampionGamerID) references
GameEssentialInfo(GamerID)
);
 select * from ChampionInfo;
```



6.

```
create table PrizeInfo(
        ChampionGamerID number(5),
        NameOfPrizes varchar2(15) constraint cn1Unique6 unique,
        ChampionGamerName varchar2(32),
        PriceOfPrizes number(5) constraint cn2Unique6 unique,
        constraint pk6 primary key(ChampionGamerID, NameOfPrizes),
        foreign key(ChampionGamerID) references
ChampionInfo(ChampionGamerID)
  );
  select * from PrizeInfo;
```



7.

```
create table SponsorInfo(
        NameOfPrizes varchar(15),
        SponserID number(5) constraint cn1Unique unique,
        PriceOfPrizes number(5),
        SponsorInvestedMoney number(5),
        SponsorAdvertisingMedium varchar(10) constraint cn1Unique7
unique,
        constraint pk7 primary key(NameOfPrizes, SponserID),
        foreign key(NameOfPrizes) references PrizeInfo(NameOfPrizes)
  );
select * from SponsorInfo;
```

Oracle SQL Developer : ARP~2

File Edit View Navigate Run Source Team Tools Window Help

Connections

- Connections
  - admin
  - ARP
  - CRM
- Oracle NoSQL Connections
- Database Schema Service Connections

ARP.sql | ERP.sql | CRM.sql | ARP1.sql | ARP2.sql | CRM1.sql | CRM2.sql

SQL Worksheet | History

0.033 seconds

Start Page | admin | ARP | ARP~2

Worksheet | Query Builder

```
        PriceOfPrizes number(5) constraint cn2Unique6 unique,
        constraint pk6 primary key(ChampionGamerID, NameOfPrizes),
        foreign key(ChampionGamerID) references ChampionInfo(ChampionGamerID)
  );
  select * from PrizeInfo;



 create table SponsorInfo(
        NameOfPrizes varchar(15),
        SponserID number(5) constraint cn1Unique unique,
        PriceOfPrizes number(5),
        SponsorInvestedMoney number(5),
        SponsorAdvertisingMedium varchar(10) constraint cn1Unique7 unique,
        constraint pk7 primary key(NameOfPrizes, SponserID),
        foreign key(NameOfPrizes) references PrizeInfo(NameOfPrizes)
  );
select * from SponsorInfo;
```

Reports

- All Reports
  - Analytic View Reports
  - Data Dictionary Reports
  - Data Modeler Reports
  - OLAP Reports
  - TimesTen Reports
  - User Defined Reports

Script Output | Query Result

SQL | All Rows Fetched: 0 in 0.004 seconds

NAMEOFPRIZES	SPONSERID	PRICEOFPRIZES	SPONSORINVESTEDMONEY	SPONSORADVERTISINGMEDIUM

Click on an identifier with the Control key down to perform "Go to Declaration"

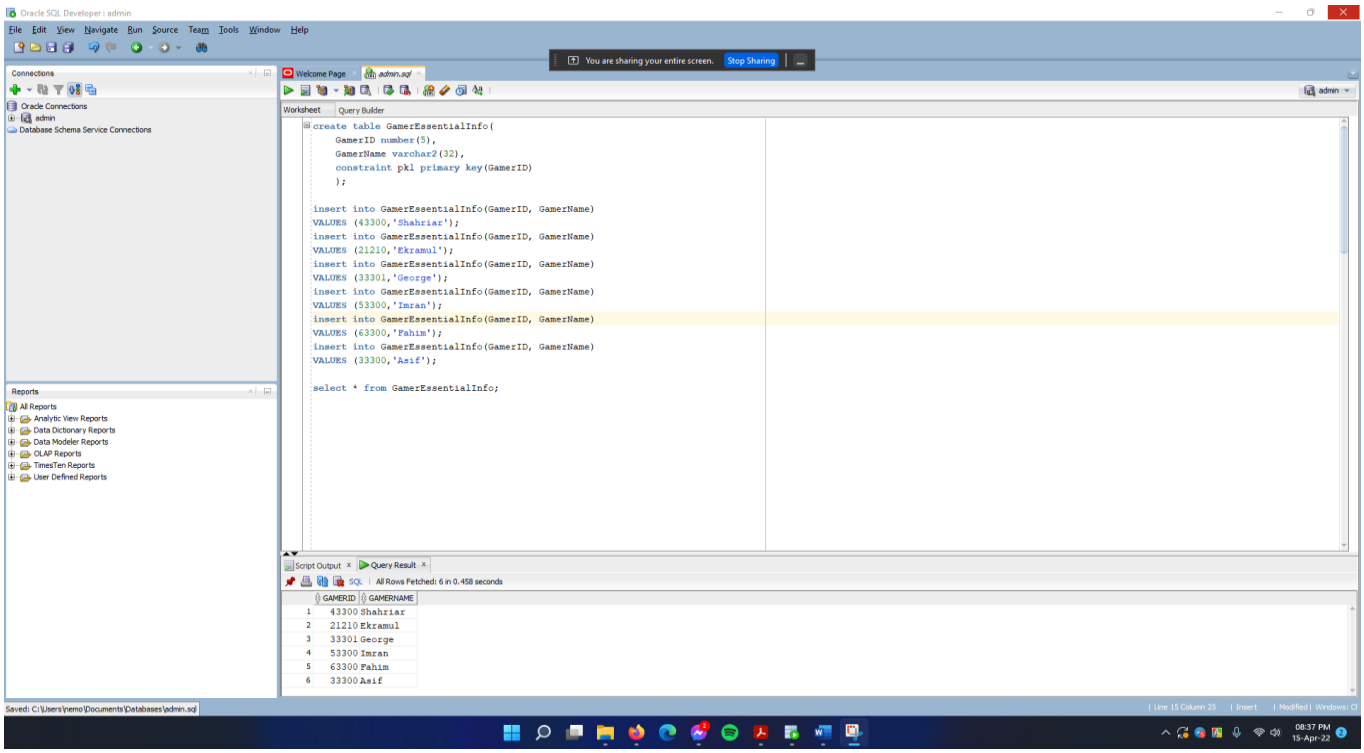
Line 77 Column 27 | Insert | Modified | Windows: CR

ENG 8:15 PM 15-Apr-22

Data insertion. (Minimum 3 rows in each table)

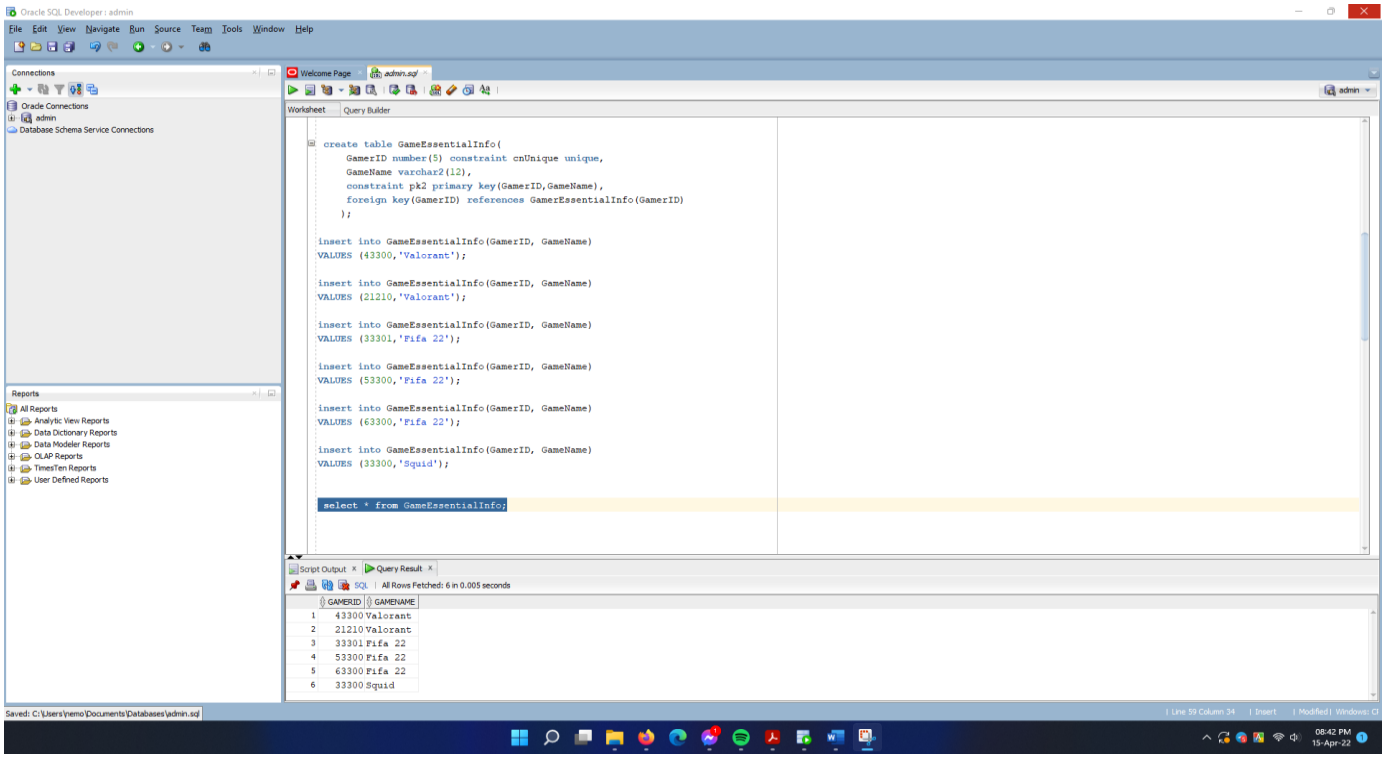
1. GamerEssentialInfo

```
insert into GamerEssentialInfo(GamerID, GamerName)
VALUES (43300,'Shahriar');

insert into GamerEssentialInfo(GamerID, GamerName)
VALUES (21210,'Ekramul');

insert into GamerEssentialInfo(GamerID, GamerName)
VALUES (33301,'George');

insert into GamerEssentialInfo(GamerID, GamerName)
VALUES (53300,'Imran');

insert into GamerEssentialInfo(GamerID, GamerName)
VALUES (63300,'Fahim');

insert into GamerEssentialInfo(GamerID, GamerName)

VALUES (33300,'Asif');
```



2. GameEssentialInfo

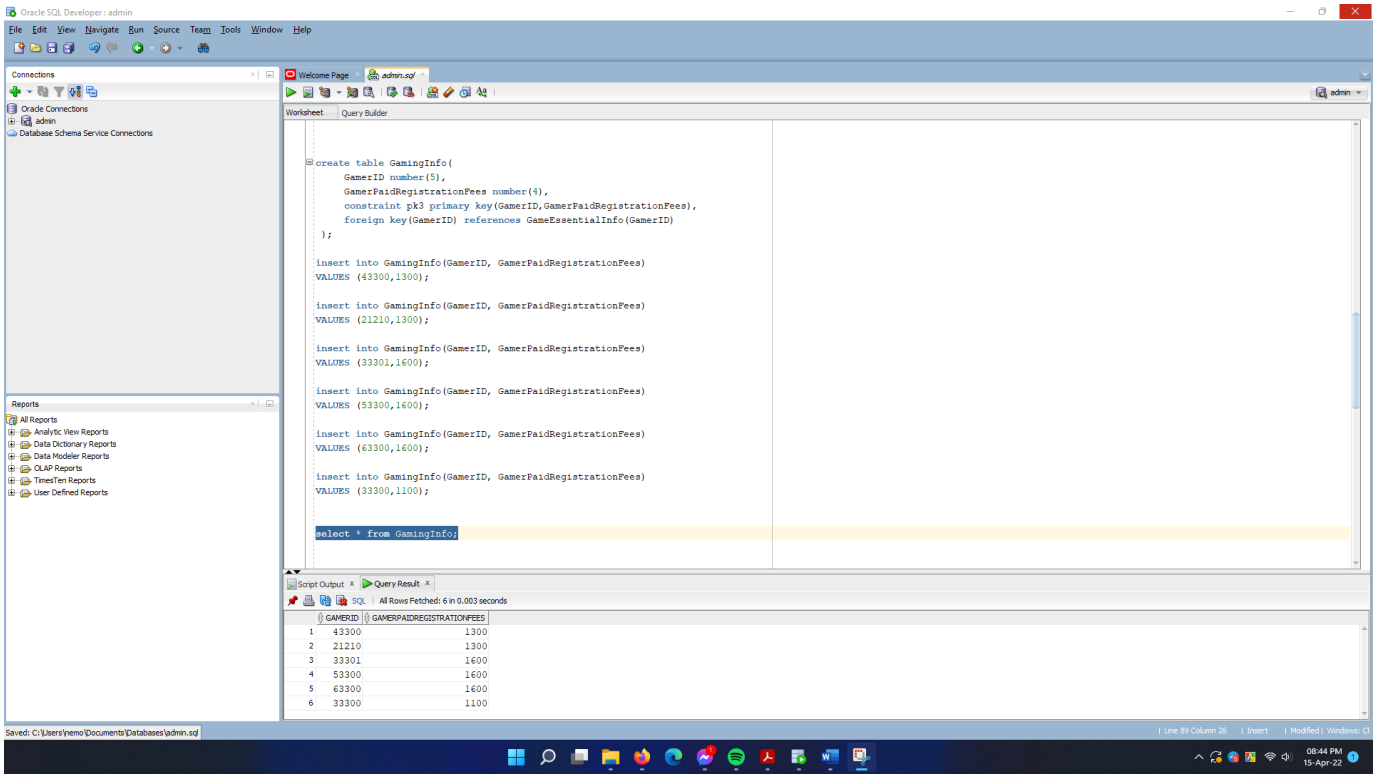
```
insert into GameEssentialInfo(GamerID, GameName)
VALUES (43300,'Valorant');

insert into GameEssentialInfo(GamerID, GameName)
VALUES (21210,'Valorant');

insert into GameEssentialInfo(GamerID, GameName)
VALUES (33301,'Fifa 22');

insert into GameEssentialInfo(GamerID, GameName)
VALUES (53300,'Fifa 22');

insert into GameEssentialInfo(GamerID, GameName)
VALUES (63300,'Fifa 22');

insert into GameEssentialInfo(GamerID, GameName)
VALUES (33300,'Squid');
```



3. GamingInfo

```
insert into GamingInfo(GamerID, GamerPaidRegistrationFees)
VALUES (43300,1300);

insert into GamingInfo(GamerID, GamerPaidRegistrationFees)
VALUES (21210,1300);

insert into GamingInfo(GamerID, GamerPaidRegistrationFees)
VALUES (33301,1600);

insert into GamingInfo(GamerID, GamerPaidRegistrationFees)
VALUES (53300,1600);

insert into GamingInfo(GamerID, GamerPaidRegistrationFees)
VALUES (63300,1600);

insert into GamingInfo(GamerID, GamerPaidRegistrationFees)
```

VALUES (33300,1100);



4. GamerAditionalInfo

```
insert into GamerAditionalInfo(GamerPaidRegistrationFees,
GamerPlayingDate, GameType) VALUES (1300,'11-Dec-2021','Fps');


insert into GamerAditionalInfo(GamerPaidRegistrationFees,
GamerPlayingDate, GameType) VALUES (1600,'12-Dec-
2021','Sports');


insert into GamerAditionalInfo(GamerPaidRegistrationFees,
GamerPlayingDate, GameType) VALUES (900,'14-Dec-
2021','Puzzles');


insert into GamerAditionalInfo(GamerPaidRegistrationFees,
GamerPlayingDate, GameType) VALUES (1000,'13-Dec-
2021','Raching');


insert into GamerAditionalInfo(GamerPaidRegistrationFees,
GamerPlayingDate, GameType) VALUES (1100,'15-Dec-
2021','Adventure');
```

Oracle SQL Developer : admin

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Connections

Oracle Connections
admin
Database Schema Service Connections

Reports

All Reports
Analytic View Reports
Data Dictionary Reports
Data Modeler Reports
OLAP Reports
TimesTen Reports
User Defined Reports

Welcome Page | admin.sql

Worksheet | Query Builder

```
create table GamerAditionalInfo(
        GamerPaidRegistrationFees number(4),
        GamerPlayingDate date,
        GameType varchar(15),
        constraint pk4 primary key(GamerPaidRegistrationFees)
);

insert into GamerAditionalInfo(GamerPaidRegistrationFees, GamerPlayingDate, GameType)
VALUES (1300,'11-Dec-2021','Fps');

insert into GamerAditionalInfo(GamerPaidRegistrationFees, GamerPlayingDate, GameType)
VALUES (1600,'12-Dec-2021','Sports');

insert into GamerAditionalInfo(GamerPaidRegistrationFees, GamerPlayingDate, GameType)
VALUES (900,'14-Dec-2021','Puzzles');

insert into GamerAditionalInfo(GamerPaidRegistrationFees, GamerPlayingDate, GameType)
VALUES (1000,'13-Dec-2021','Raching');

insert into GamerAditionalInfo(GamerPaidRegistrationFees, GamerPlayingDate, GameType)
VALUES (1100,'15-Dec-2021','Adventure');


select * from GamerAditionalInfo;
```

Script Output | Query Result

SQL | All Rows Fetched: 5 in 0.005 seconds

	GAMERPAIDREGISTRATIONFEES	GAMERPLAYINGDATE	GAMETYPE
1	1300	11-DEC-21	Fps
2	1600	12-DEC-21	Sports
3	900	14-DEC-21	Puzzles
4	1000	13-DEC-21	Raching
5	1100	15-DEC-21	Adventure

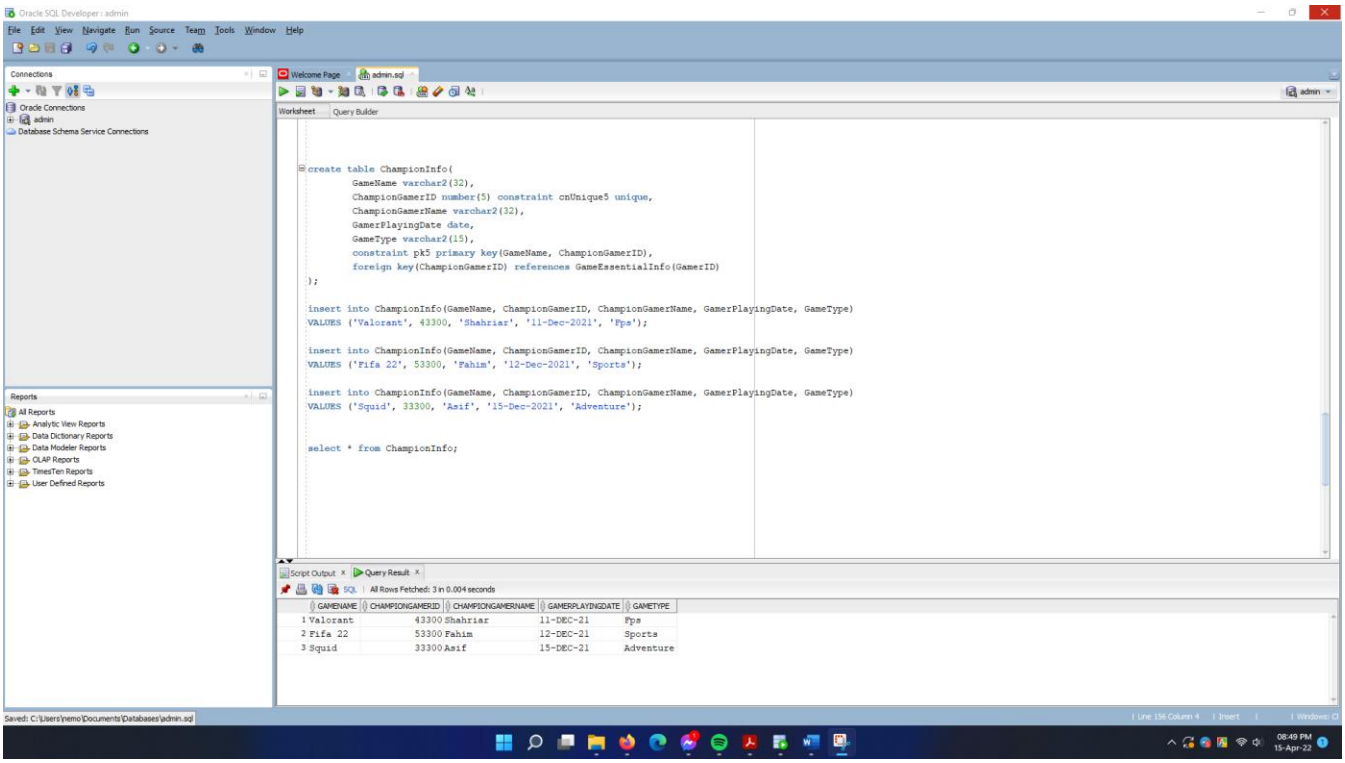
Saved: C:\Users\nemo\Documents\Databases\admin.sql

Line 114 Column 34 | Insert | Windows: CI

08:48 PM
15-Apr-22

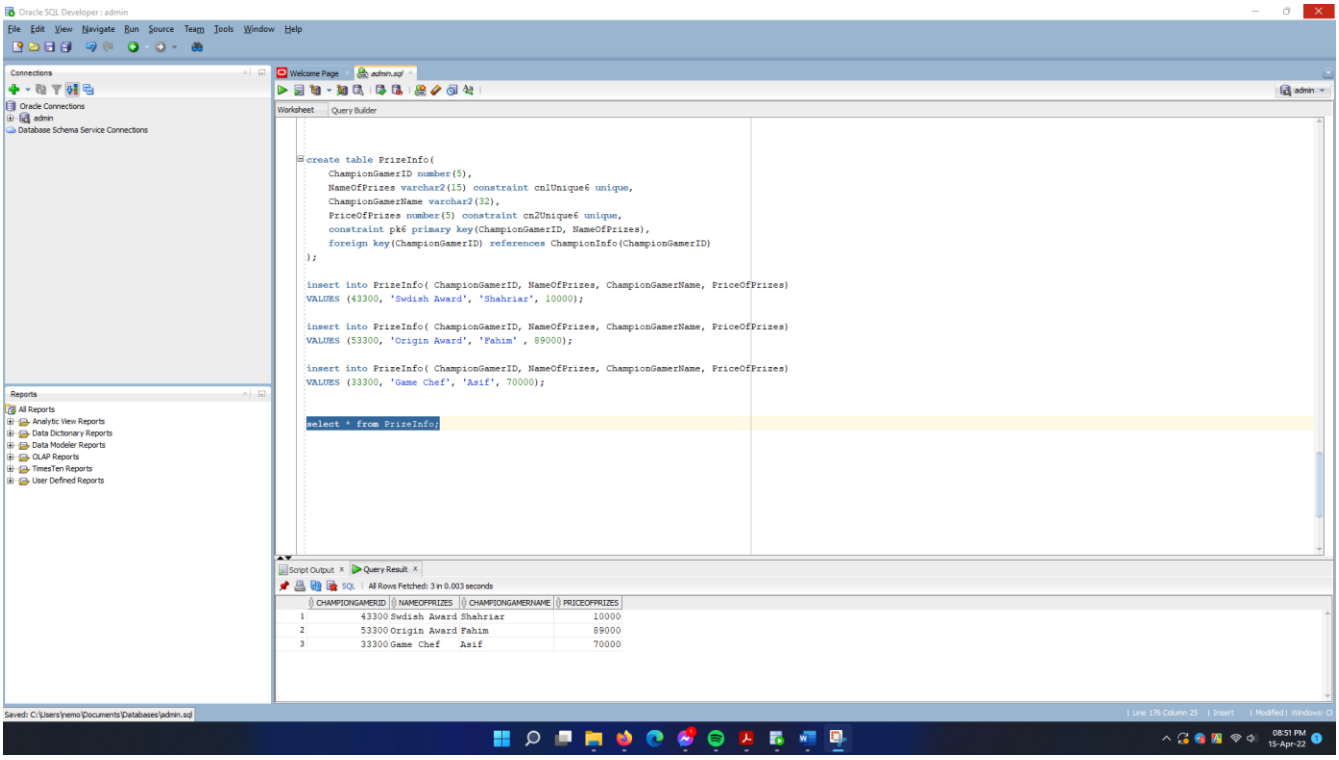
5. ChampionInfo

```
insert into ChampionInfo(GameName, ChampionGamerID,
ChampionGamerName, GamerPlayingDate, GameType)
VALUES ('Valorant', 43300, 'Shahriar', '11-Dec-2021', 'Fps');

insert into ChampionInfo(GameName, ChampionGamerID,
ChampionGamerName, GamerPlayingDate, GameType)
VALUES ('Fifa 22', 53300, 'Fahim', '12-Dec-2021', 'Sports');

insert into ChampionInfo(GameName, ChampionGamerID,
ChampionGamerName, GamerPlayingDate, GameType)
VALUES ('Squid', 33300, 'Asif', '15-Dec-2021', 'Adventure');
```



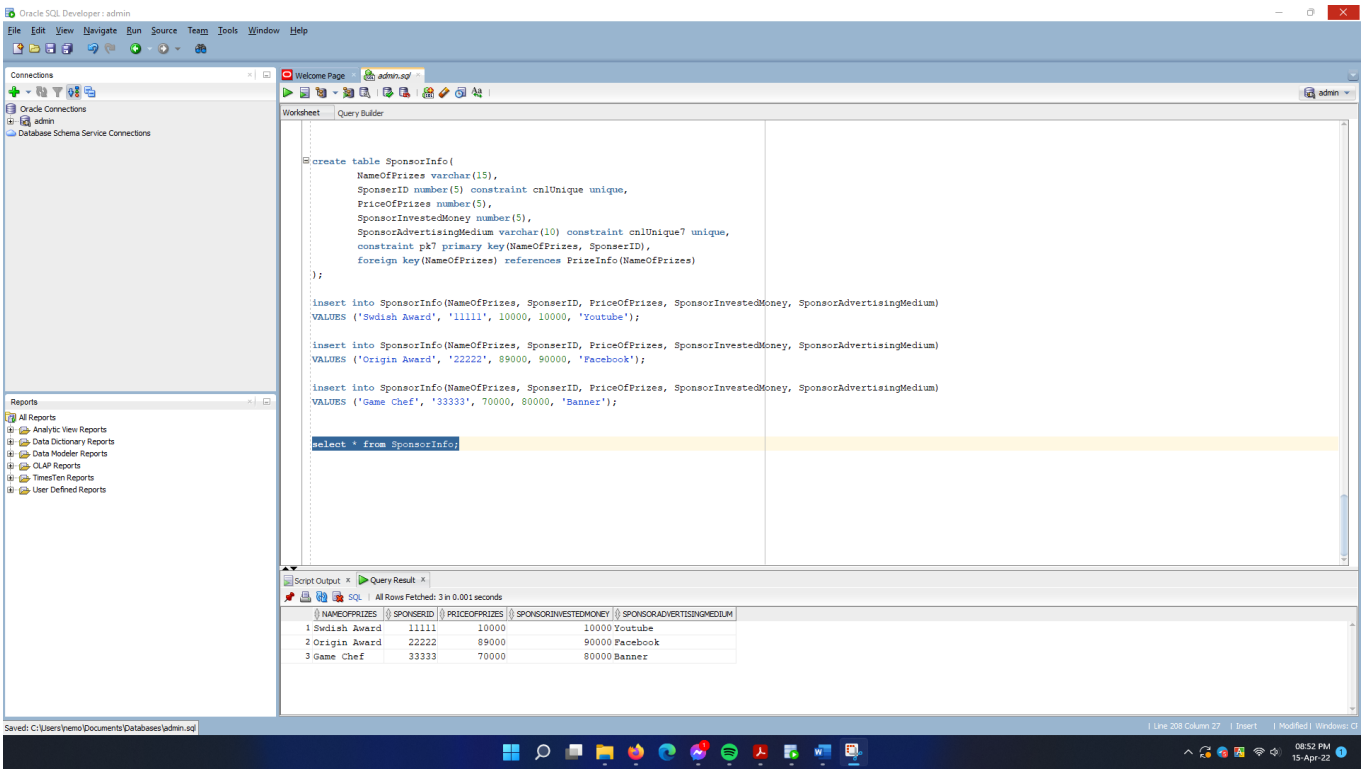
6. PrizeInfo

```
insert into PrizeInfo( ChampionGamerID, NameOfPrizes,
ChampionGamerName, PriceOfPrizes)
VALUES (43300, 'Swdish Award', 'Shahriar', 10000);

insert into PrizeInfo( ChampionGamerID, NameOfPrizes,
ChampionGamerName, PriceOfPrizes)
VALUES (53300, 'Origin Award', 'Fahim' , 89000);

insert into PrizeInfo( ChampionGamerID, NameOfPrizes,
ChampionGamerName, PriceOfPrizes)
VALUES (33300, 'Game Chef', 'Asif', 70000);
```



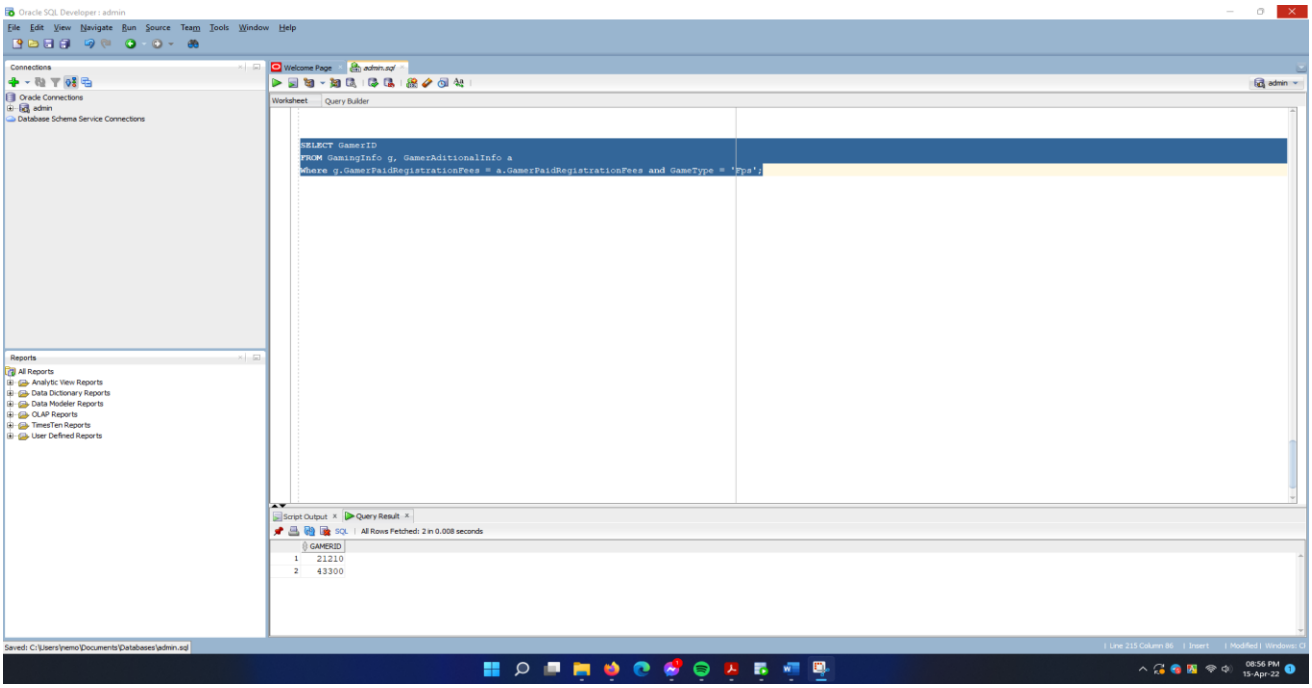
7. SponsorInfo

```
insert into SponsorInfo(NameOfPrizes, SponserID, PriceOfPrizes,
SponsorInvestedMoney, SponsorAdvertisingMedium)
VALUES ('Swdish Award', '11111', 10000, 10000, 'Youtube');

insert into SponsorInfo(NameOfPrizes, SponserID, PriceOfPrizes,
SponsorInvestedMoney, SponsorAdvertisingMedium)
VALUES ('Origin Award', '22222', 89000, 90000, 'Facebook');

insert into SponsorInfo(NameOfPrizes, SponserID, PriceOfPrizes,
SponsorInvestedMoney, SponsorAdvertisingMedium)
VALUES ('Game Chef', '33333', 70000, 80000, 'Banner');
```



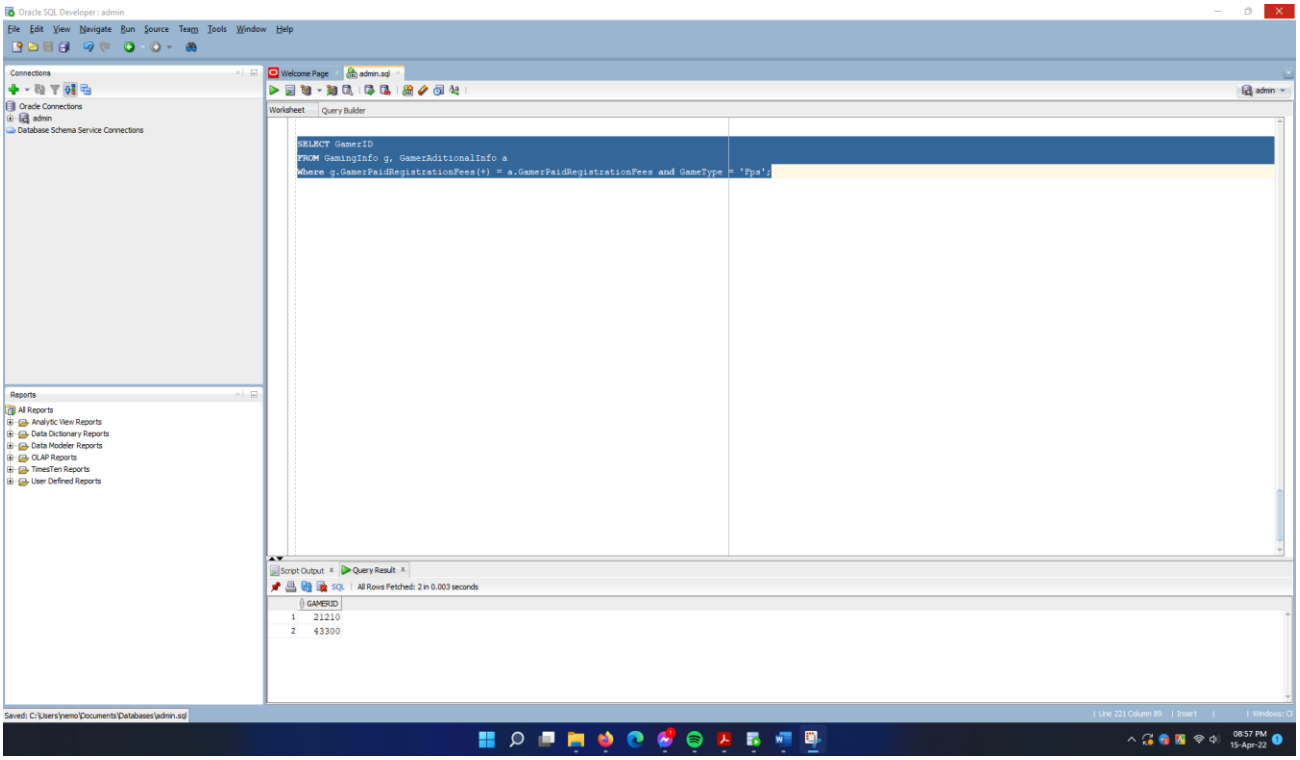
Equijoin: Display all the id of all gamers who participated in Fps games.

```
SELECT GamerID
FROM GamingInfo g, GamerAditionalInfo a
Where g.GamerPaidRegistrationFees = a.GamerPaidRegistrationFees
and GameType = 'Fps';
```



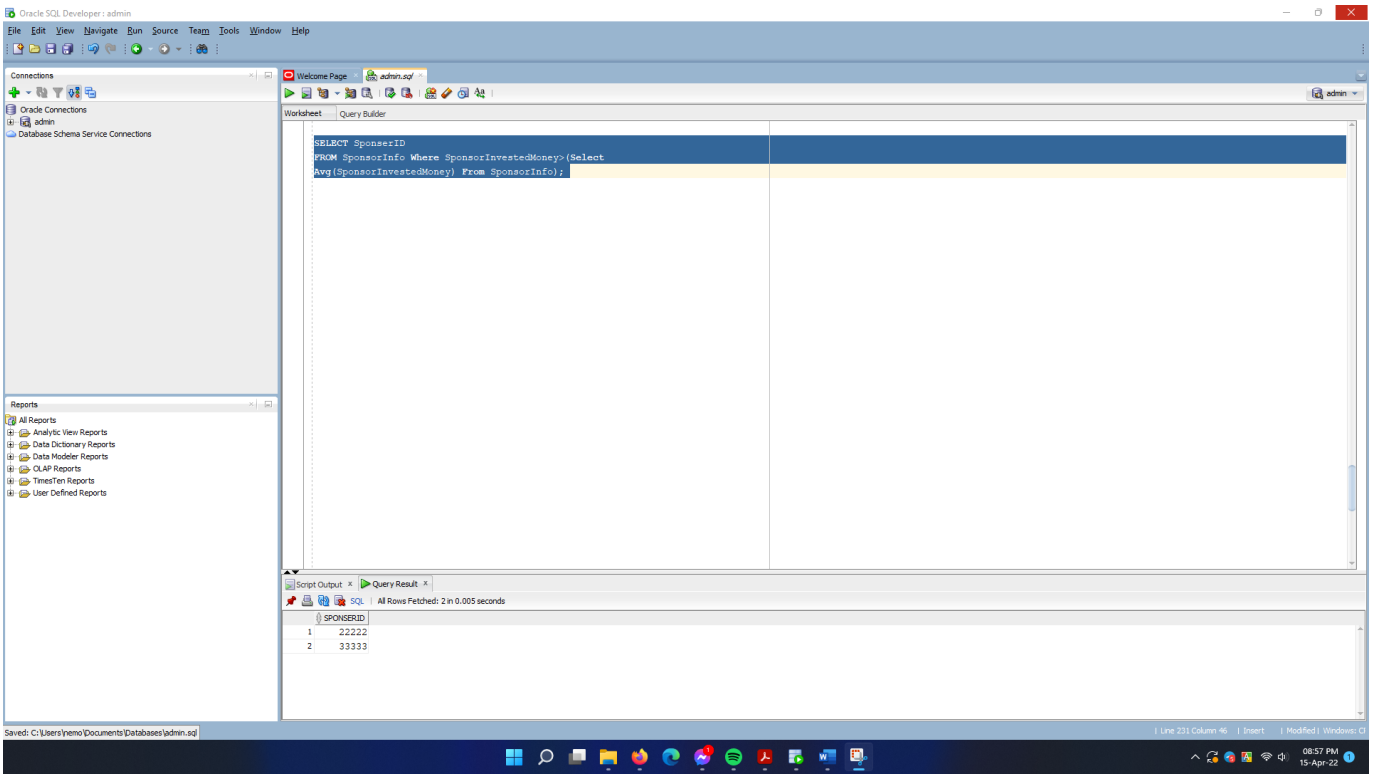
Outerjoin: Display all the id of all gamers who participated in Fps games with show extra row of GameType column.

```
SELECT GamerID
FROM GamingInfo g, GamerAditionalInfo a
Where g.GamerPaidRegistrationFees(+) =
a.GamerPaidRegistrationFees and GameType = 'Fps';
```



Self Join: Display all the sponsor ID whose invested more than all the sponsors average investment.

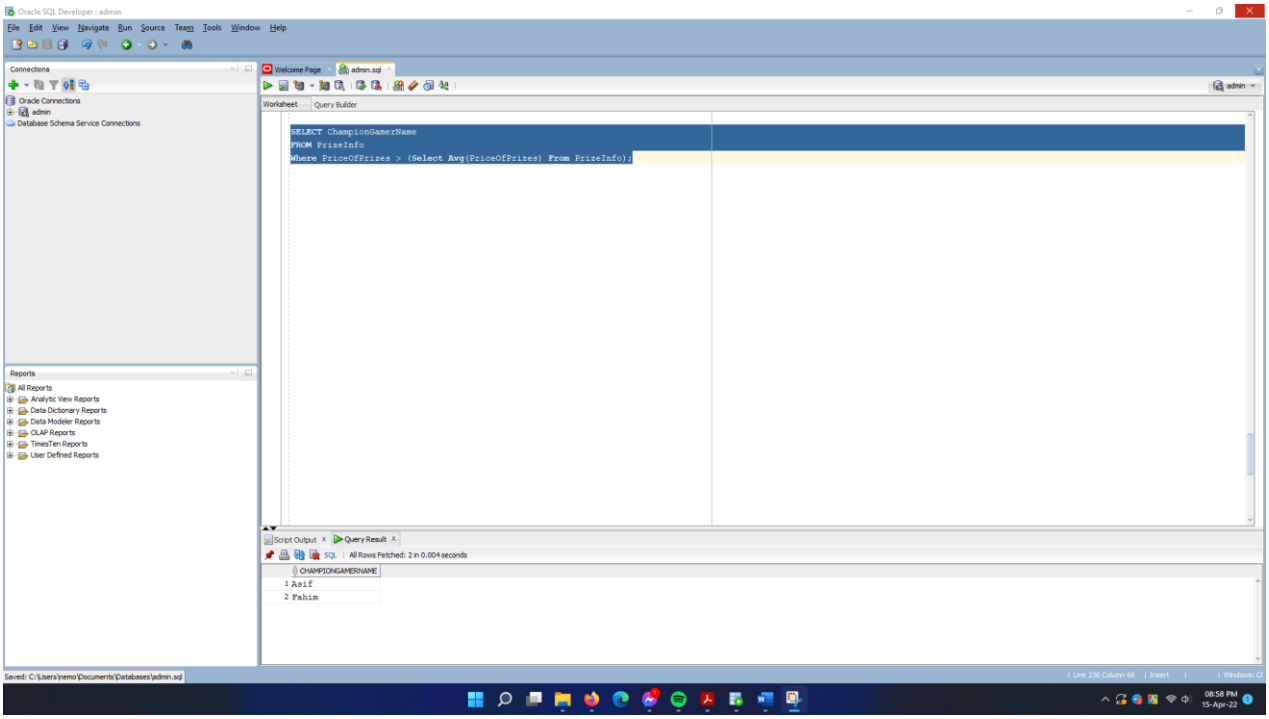
```
SELECT SponserID
FROM SponsorInfo Where SponsorInvestedMoney>(Select
Avg(SponsorInvestedMoney) From SponsorInfo);
```



Subquery (3 subqueries) with screenshots.

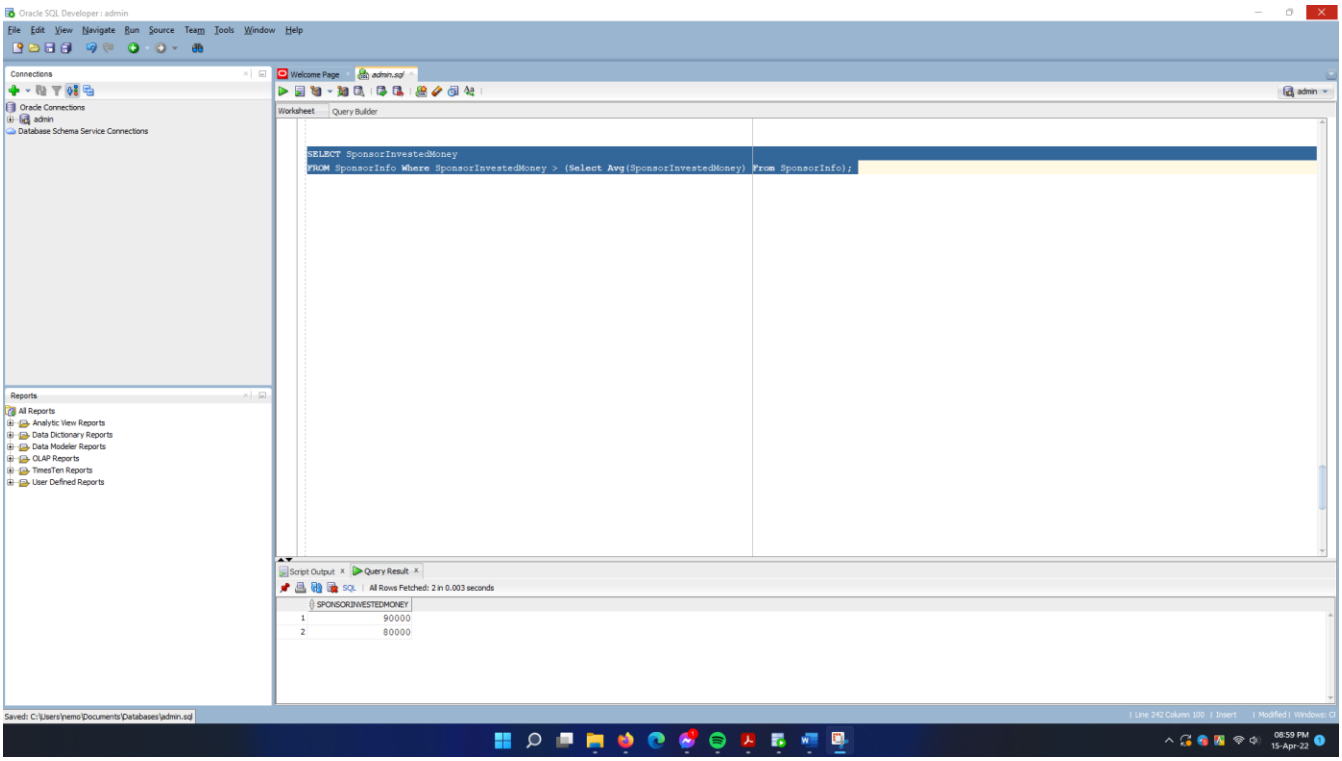
1. **Display all the champion gamer name whose gets expensive prizes than all the Champion Gamer average price of prizes.**

```
SELECT ChampionGamerName
FROM PrizeInfo
Where PriceOfPrizes > (Select Avg(PriceOfPrizes) From PrizeInfo);
```



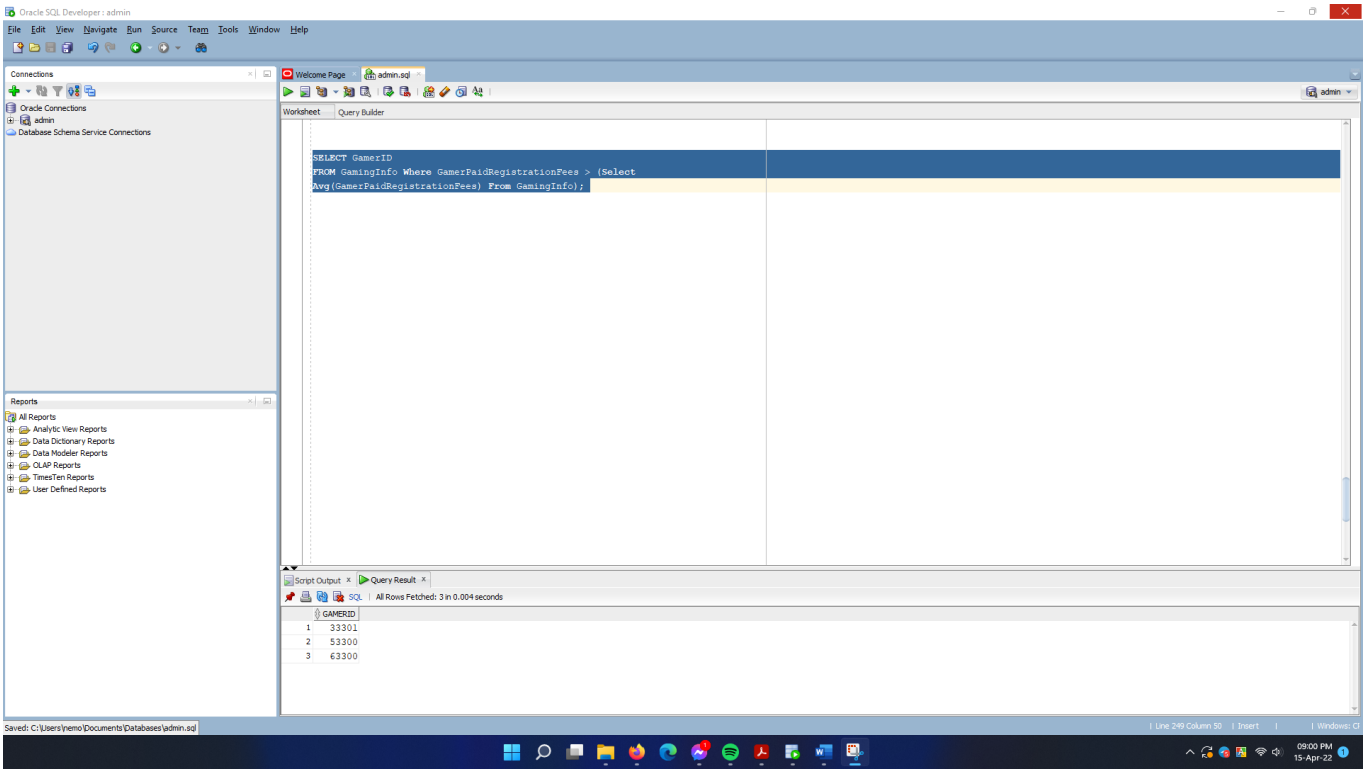
2. Display all the amount of invested money which is higher than all the sponsors average investment.

```
SELECT SponsorInvestedMoney
FROM SponsorInfo Where SponsorInvestedMoney > (Select
Avg(SponsorInvestedMoney) From SponsorInfo);
```



3. **Display all the gamer id whose paid registration fees is higher than all the gamers average paid registration fees.**

```
SELECT GamerID
FROM GamingInfo Where GamerPaidRegistrationFees > (Select
Avg(GamerPaidRegistrationFees) From GamingInfo);
```

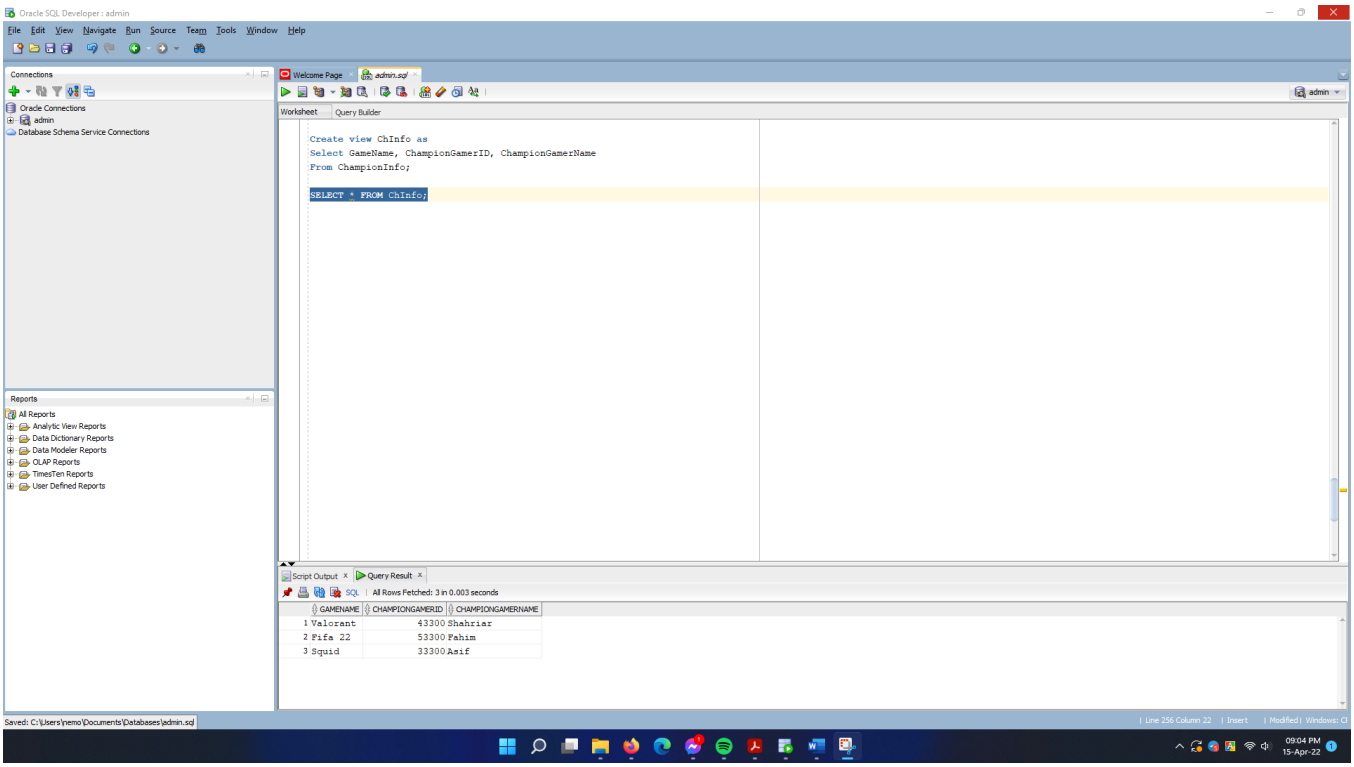


View(1 Complex view,1 simple view) with screenshot.

1. Simple View:

Create a view called ChInfo based on: GameName, ChampionGamerID, ChampionGamerName from ChampionInfo table.

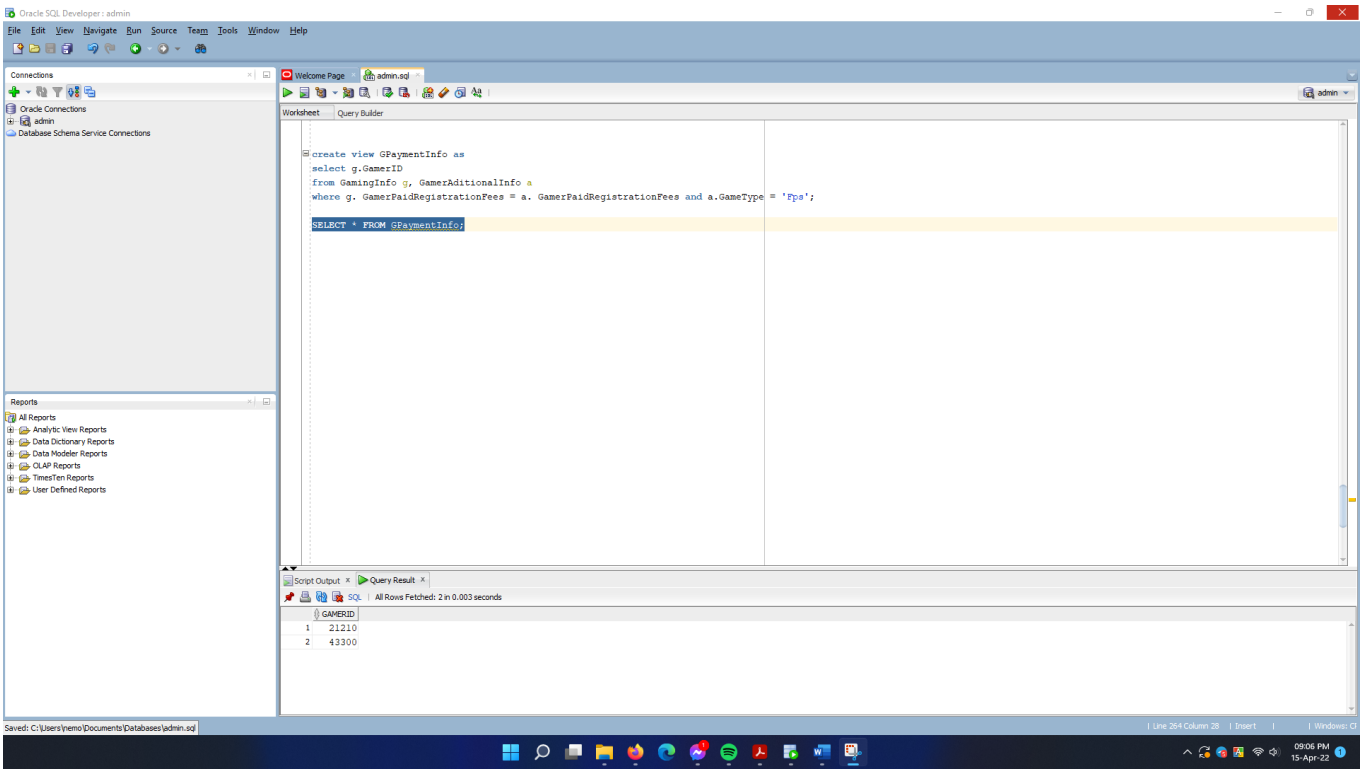
```
Create view ChInfo as
Select GameName, ChampionGamerID, ChampionGamerName
From ChampionInfo;
```



2. Complex View:

Create a view called GPaymentInfo that will display the id of all the gamers who participated in Fps games.

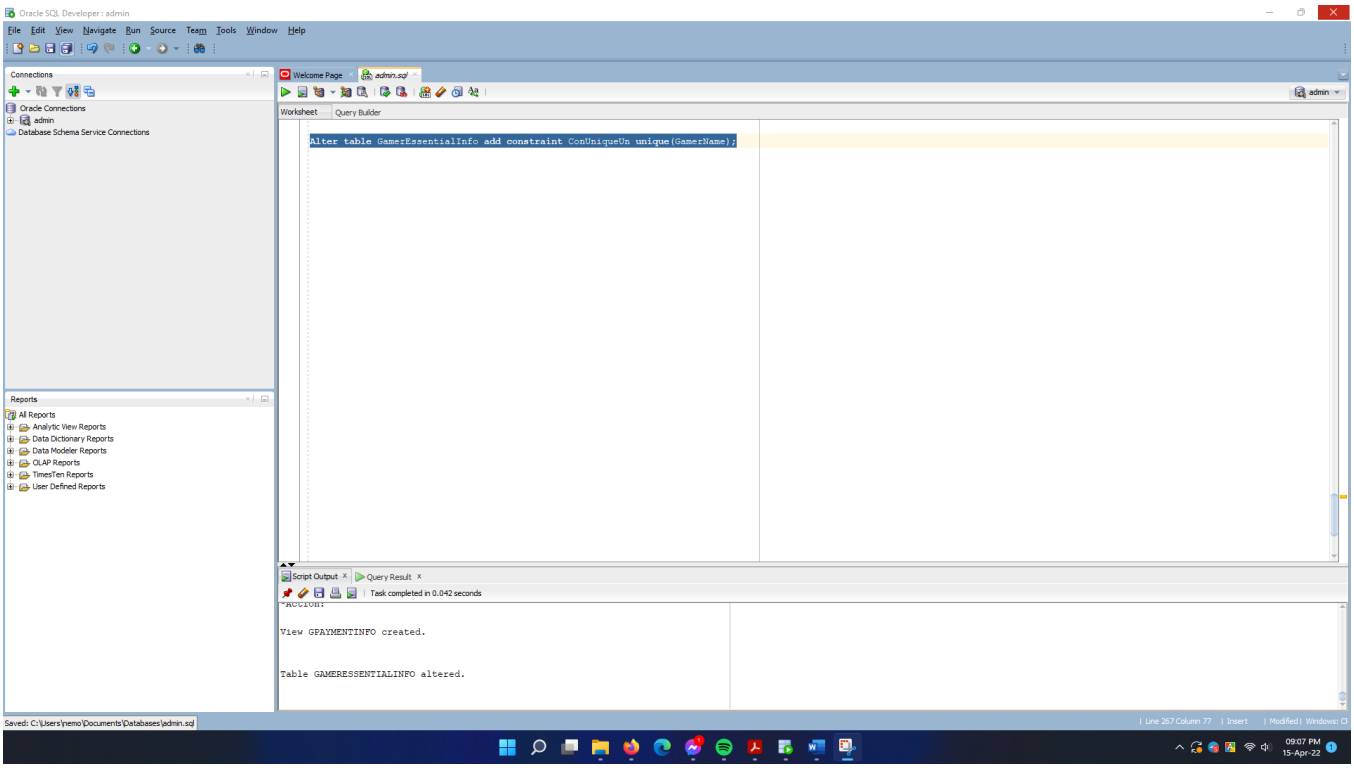
```
create view GPaymentInfo as
select g.GamerID
from GamingInfo g, GamerAditionalInfo a
where g. GamerPaidRegistrationFees = a. GamerPaidRegistrationFees
and a.GameType = 'Fps';
```



Add a constraint in any of your table with screenshot

Add a constraint that will make Gamer Name unique.

```
alter table GamerEssentialInfo add constraint ConUniqueUn
unique(GamerName);
```



--- O ---