

## Introduction to Database Project

Final Report

Title: Game Platform

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CCCS215: Introduction to Database

CY9 -17924

#### The Description:

Nowadays, the demand for Video games is increasing worldwide because it develops thinking skills and quick reactions. They are also very entertaining and have become a source of income for many years.

Our idea is to create a Game Platform Strategy suitable for any Game Start-up-company. By including an online Store to cover players' needs and interests, Also by providing games and Live Streaming platforms, there will be managed and organized relationships between employees and suppliers also with some investors, to make the Start-up-company Ready to enter the market.

#### Some required information that will be covered:

- Variety of video games (their invention company, the year of production)
- Names of famous players ( players age , skills)
- The online store requirements (product categories, orders)
- Live Streamers platforms (Famous Players, live-streaming services, investments)

#### The Platform Entities:

- Online Store
- Employee
- Supplier
- Player
- Game
- Investor
- Live Stream

#### Group member duties:

- Lameer Almoallim 2111368 "Leader",
   Design phases and reports. (Scenario & Oracle).
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- Shahad Ahmed Alqarni 2111214 (ER model & Oracle). 2111214@uj.edu.sa
- Shahd ali alshikhi 2111228 (Normalization & Oracle). 2111228@uj.edu.sa
- Atheer Alotaibi 2111266 (Relation & Oracle).
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#### The Scenario:

A company called GamePlatform creates a fundamental strategy to help Start-up-company to build their own GameStore. The platform provides

Directions and information to the online game store to be implemented The main spots to be covered are:

- The Online\_Store includes order\_ID, Product\_categories, Products ,shipping\_Address(Country, City, neighborhood), Delivery , Price .
- Employes including Employee\_ID, Employee\_Name, salary,
- Suppliers including Supplier\_ID, Supplier\_Name, contact\_address.
- Players including their Username, age, {Skill\_level}.
- Games including their Name and categories, Developer\_name, [relese\_date].
- Investors with investors-id ,(Investor\_name), Investment\_Type , [invest\_date].
- Live Stream that must include Straming\_id, Stream\_PlatForm, points.

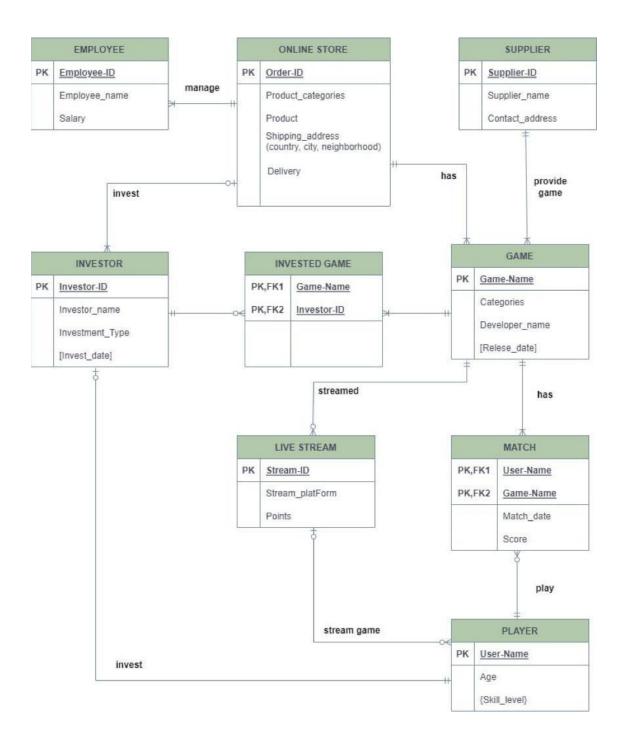
To work on the Game Store, a Supplier must provide many games to the Game Store, and the Game Store must be managed by many Employees.

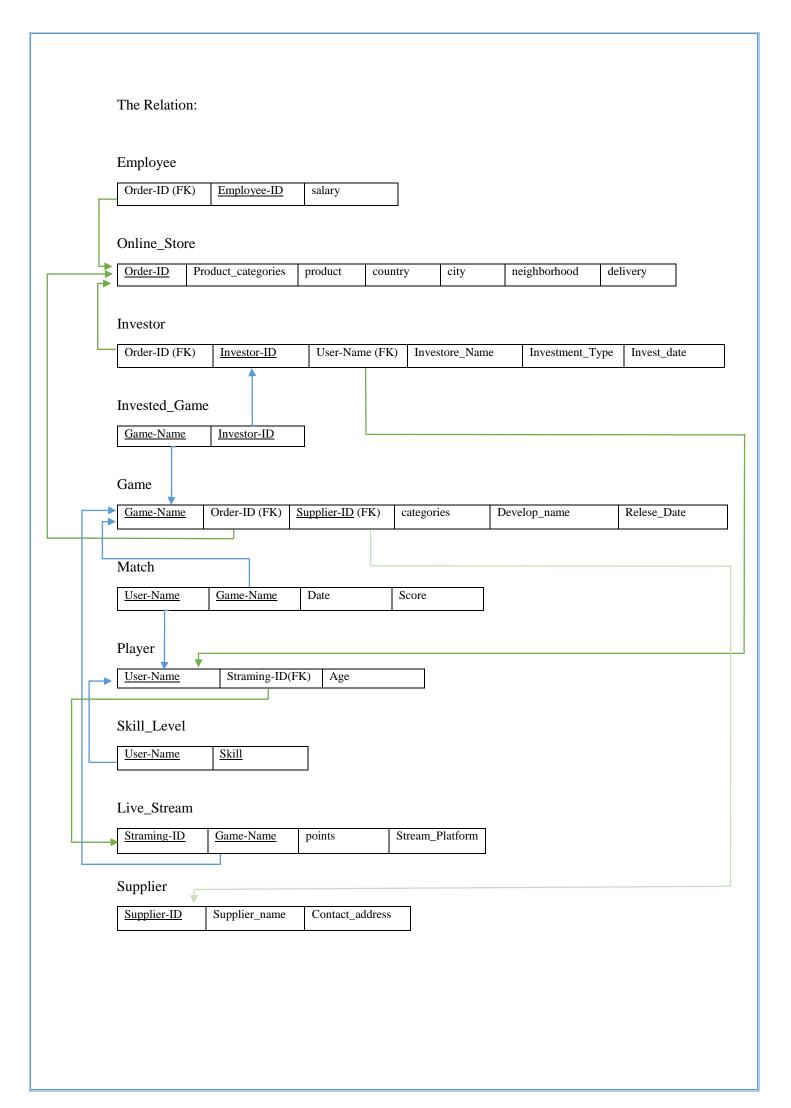
Many Players may play many games, but the game must be played by players , including matches.

A live stream could happen while playing games, so the player may Stream only one game at a time, but Streaming may accrue by multiple players. In addition, one game maybe streamed in many live stream.

Investors have a relationship with the Game Store, Players, and Games So Investors may invest in the Game Store. The Game Store must have investors; also, many investors may invest in Different games, and a game must be invested by one investor or more. In addition, investors must invest in one player.

#### The ER Module:





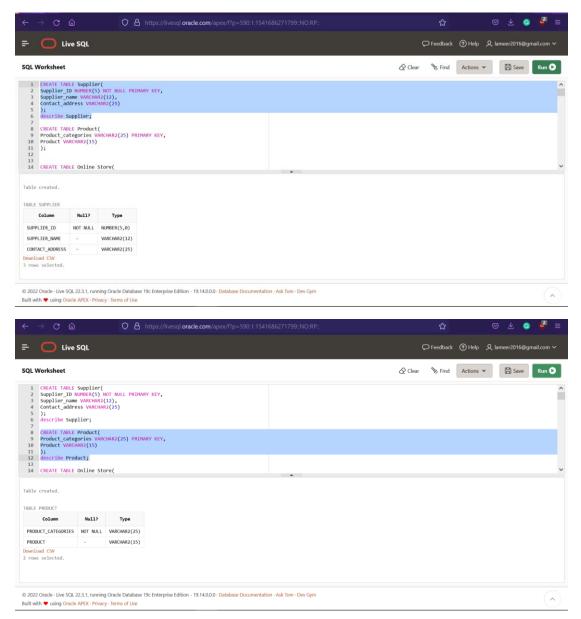
#### The Normalization:

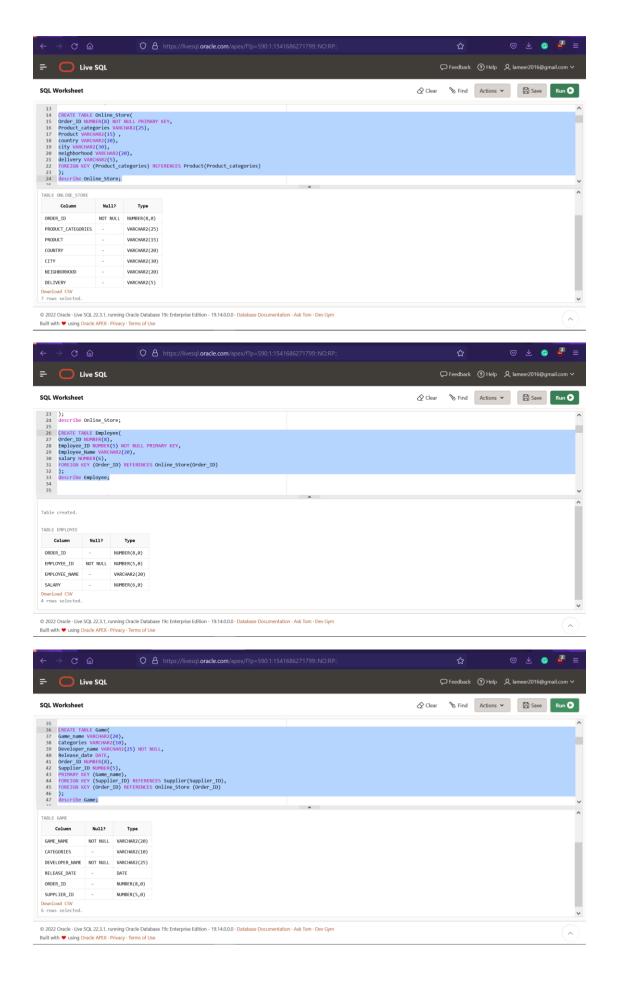
```
For Player Table
Player (<u>User-Name</u>, Age, (Skill))
- 1NF
Player (<u>User-Name</u>, Age)
Player_Skill (<u>User-Name</u>, <u>Skill</u>)
- 2NF, 3NF (Are applied in 1NF)
For Online_Store Table
- 1NF, 2NF (Are already applied)
-3NF
Product (<u>Product-categories</u>, Product)
Online_Store (Order-ID, Product, Product_categories (FK), country, city,
neighborhood, delivery)
The Tables that are already in 3NF:
Employee (Order-ID (FK), Employee-ID, salary) 3NF
Investor (Order-ID (FK), Investor-ID, User-Name (FK), Investore_Name,
Investment_Type , Invest_date) 3NF
Invested_Game (Game-Name, Investor-ID) 3NF
Game (<u>Game-Name</u>, categories, developer-name, Develop_name, Relese_Date)
3NF
Match (User-Name, Game-Name, Date, Score) 3NF
Live_Stram (Straming-ID , Game-Name , points , Stream_Platform) 3NF
```

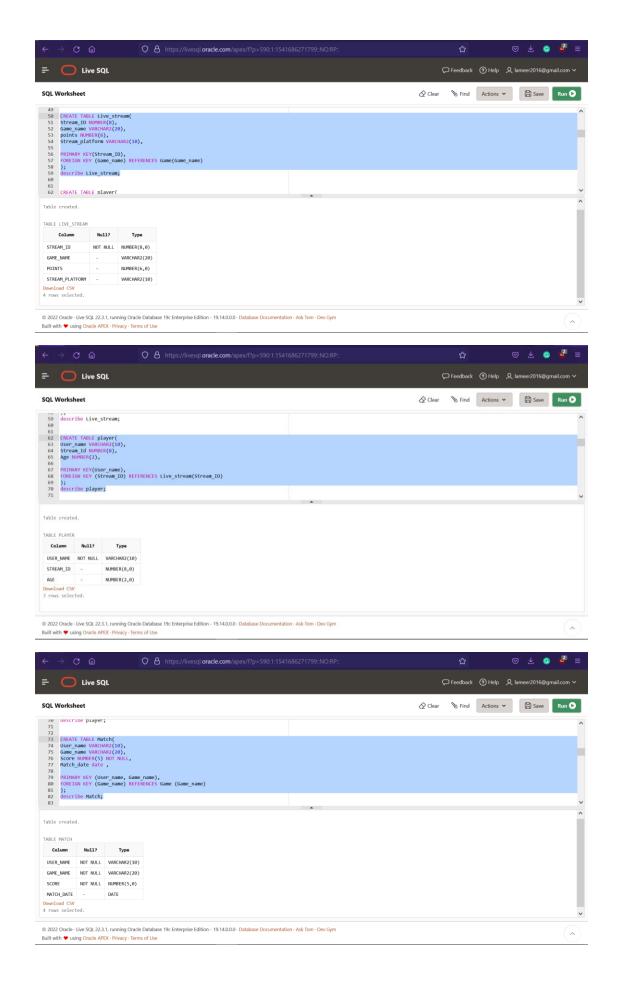
Supplier (<u>Supplier-ID</u>, Supplier\_name, Contact\_address) 3NF

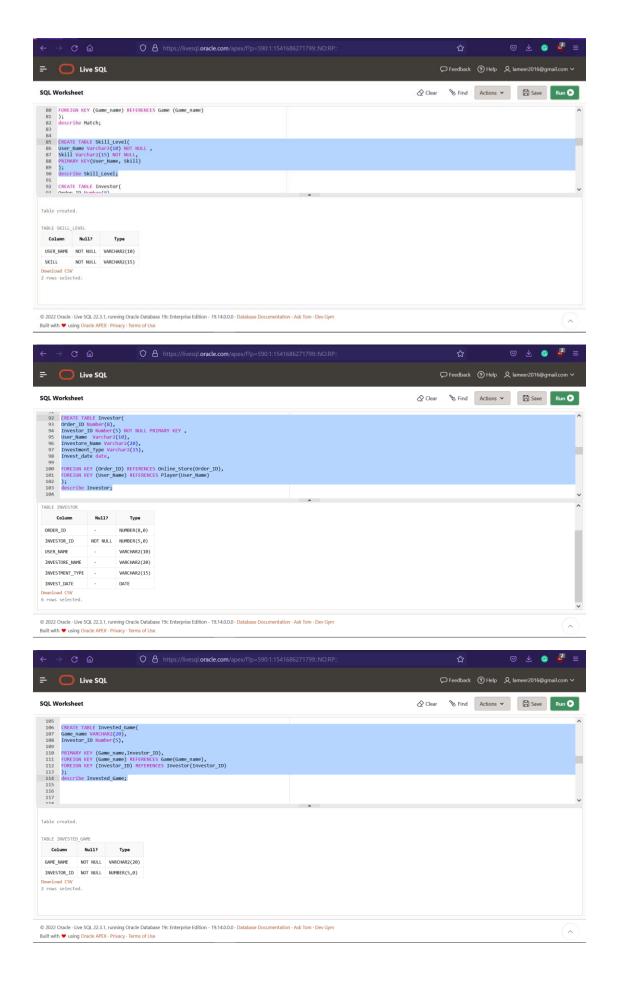
### **Oracle Tables**

# Part 1 Creating the tables









## The code for Creating Tables:

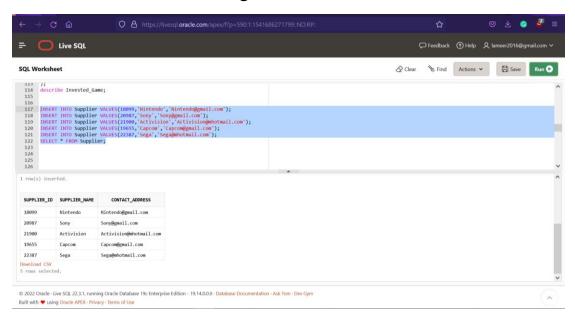
```
CREATE TABLE Supplier(
Supplier_ID NUMBER(5) NOT NULL PRIMARY KEY,
Supplier_name VARCHAR2(12),
Contact address VARCHAR2(25)
);
describe Supplier;
CREATE TABLE Product(
Product_categories VARCHAR2(25) PRIMARY KEY,
Product VARCHAR2(15)
);
describe Product;
CREATE TABLE Online_Store(
Order_ID NUMBER(8) NOT NULL PRIMARY KEY,
Product_categories VARCHAR2(25),
Product VARCHAR2(15),
country VARCHAR2(20),
city VARCHAR2(30),
neighborhood VARCHAR2(20),
delivery VARCHAR2(5),
FOREIGN KEY (Product_categories) REFERENCES Product(Product_categories)
);
describe Online_Store;
```

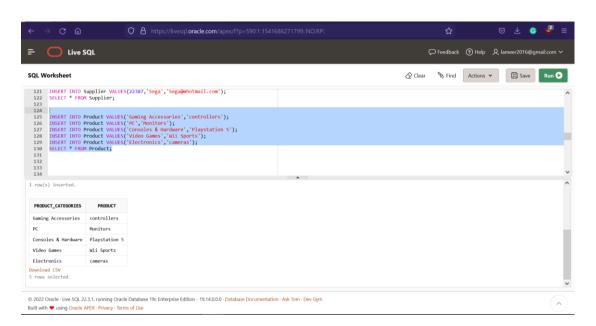
```
CREATE TABLE Employee(
Order_ID NUMBER(8),
Employee_ID NUMBER(5) NOT NULL PRIMARY KEY,
Employee_Name VARCHAR2(20),
salary NUMBER(6),
FOREIGN KEY (Order_ID) REFERENCES Online_Store(Order_ID)
);
describe Employee;
CREATE TABLE Game(
Game_name VARCHAR2(20),
Categories VARCHAR2(10),
Developer_name VARCHAR2(25) NOT NULL,
Release_date DATE,
Order_ID NUMBER(8),
Supplier_ID NUMBER(5),
PRIMARY KEY (Game_name),
FOREIGN KEY (Supplier_ID) REFERENCES Supplier(Supplier_ID),
FOREIGN KEY (Order_ID) REFERENCES Online_Store (Order_ID)
);
describe Game:
CREATE TABLE Live_stream(
Stream_ID NUMBER(8),
Game_name VARCHAR2(20),
points NUMBER(6),
Stream_platform VARCHAR2(10),
PRIMARY KEY(Stream ID),
FOREIGN KEY (Game_name) REFERENCES Game(Game_name)
);
describe Live_stream;
```

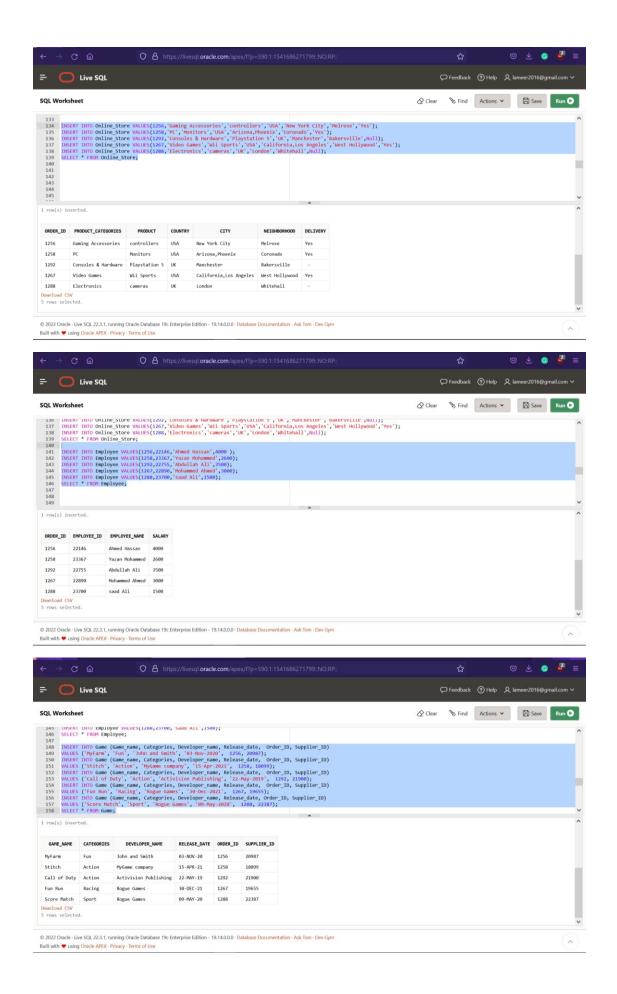
```
CREATE TABLE player(
User_name VARCHAR2(10),
Stream_Id NUMBER(8),
Age NUMBER(2),
PRIMARY KEY(User_name),
FOREIGN KEY (Stream_ID) REFERENCES Live_stream(Stream_ID)
);
describe player;
CREATE TABLE Match(
User_name VARCHAR2(10),
Game_name VARCHAR2(20),
Score NUMBER(5) NOT NULL,
Match_date date,
PRIMARY KEY (User_name, Game_name),
FOREIGN KEY (Game_name) REFERENCES Game (Game_name)
);
describe Match;
CREATE TABLE Skill_Level(
User_Name Varchar2(10) NOT NULL,
Skill Varchar2(15) NOT NULL,
PRIMARY KEY(User_Name, Skill)
);
describe Skill_Level;
```

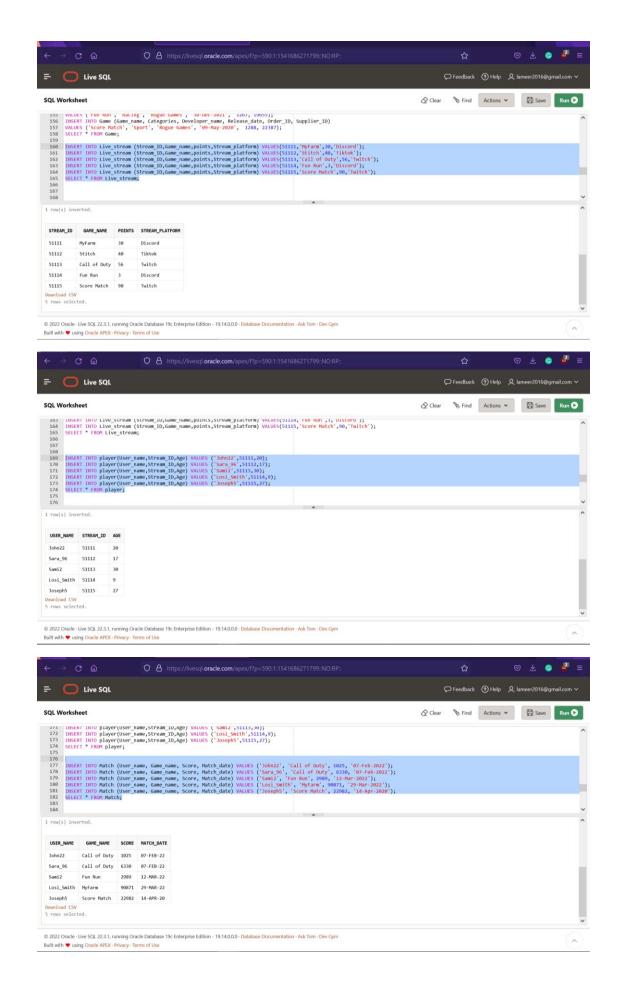
```
CREATE TABLE Investor(
Order_ID Number(8),
Investor_ID Number(5) NOT NULL PRIMARY KEY ,
User_Name Varchar2(10),
Investore_Name Varchar2(20),
Investment_Type Varchar2(15),
Invest_date date,
FOREIGN KEY (Order_ID) REFERENCES Online_Store(Order_ID),
FOREIGN KEY (User_Name) REFERENCES Player(User_Name)
);
describe Investor;
CREATE TABLE Invested_Game(
Game_name VARCHAR2(20),
Investor_ID Number(5),
PRIMARY KEY (Game_name,Investor_ID),
FOREIGN KEY (Game_name) REFERENCES Game(Game_name),
FOREIGN KEY (Investor_ID) REFERENCES Investor(Investor_ID)
);
describe Invested_Game;
```

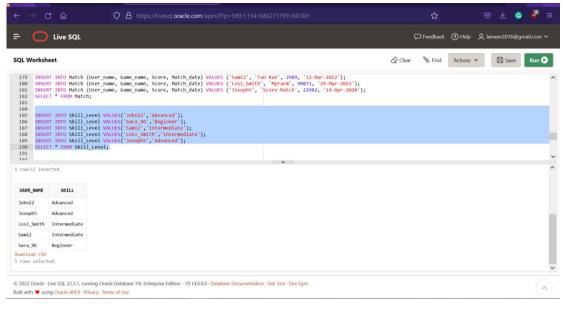
Part 2
Inserting values into tables

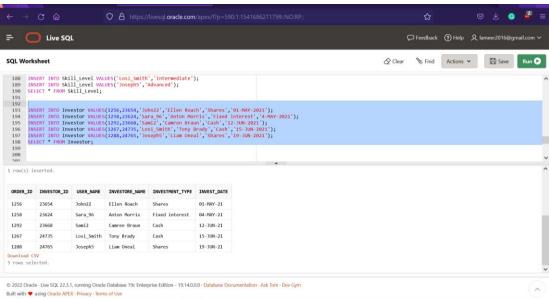


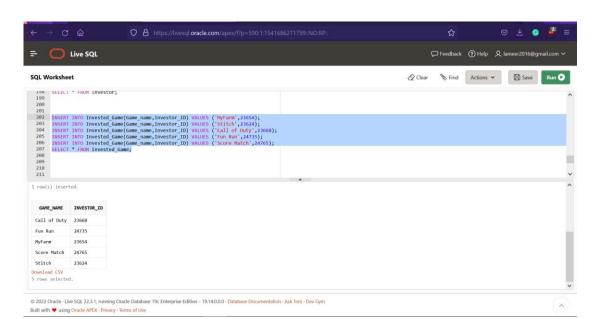












### The code for the inserting values:

```
INSERT INTO Supplier VALUES(18099, 'Nintendo', 'Nintendo@gmail.com');
INSERT INTO Supplier VALUES(20987, 'Sony', 'Sony@gmail.com');
INSERT INTO Supplier VALUES(21900, 'Activision', 'Activision@mhotmail.com');
INSERT INTO Supplier VALUES(19655, 'Capcom', 'Capcom@gmail.com');
INSERT INTO Supplier VALUES(22387, 'Sega', 'Sega@mhotmail.com');
SELECT * FROM Supplier;
INSERT INTO Product VALUES('Gaming Accessories','controllers');
INSERT INTO Product VALUES('PC','Monitors');
INSERT INTO Product VALUES('Consoles & Hardware', 'Playstation 5');
INSERT INTO Product VALUES('Video Games','Wii Sports');
INSERT INTO Product VALUES('Electronics', 'cameras');
SELECT * FROM Product:
INSERT INTO Online_Store VALUES(1256, 'Gaming Accessories', 'controllers', 'USA', 'New
York City', 'Melrose', 'Yes');
INSERT INTO Online_Store
VALUES(1258, 'PC', 'Monitors', 'USA', 'Arizona, Phoenix', 'Coronado', 'Yes');
INSERT INTO Online_Store VALUES(1292, 'Consoles & Hardware', 'Playstation
5','UK','Manchester','Bakersville',Null);
INSERT INTO Online_Store VALUES(1267,'Video Games','Wii
Sports', 'USA', 'California, Los Angeles', 'West Hollywood', 'Yes');
INSERT INTO Online_Store
VALUES(1288, 'Electronics', 'cameras', 'UK', 'London', 'Whitehall', Null);
SELECT * FROM Online_Store;
```

```
INSERT INTO Employee VALUES(1256,22146,'Ahmed Hassan',4000);
INSERT INTO Employee VALUES(1258,23367, 'Yazan Mohammed', 2600);
INSERT INTO Employee VALUES(1292,22755,'Abdullah Ali',3500);
INSERT INTO Employee VALUES(1267,22890,'Mohammed Ahmed',3000);
INSERT INTO Employee VALUES(1288,23700,'saad Ali',1500);
SELECT * FROM Employee;
INSERT INTO Game (Game_name, Categories, Developer_name, Release_date, Order_ID,
Supplier_ID)
VALUES ('MyFarm', 'Fun', 'John and Smith', '03-Nov-2020', 1256, 20987);
INSERT INTO Game (Game_name, Categories, Developer_name, Release_date, Order_ID,
Supplier_ID)
VALUES ('Stitch', 'Action', 'MyGame company', '15-Apr-2021', 1258, 18099);
INSERT INTO Game (Game_name, Categories, Developer_name, Release_date, Order_ID,
Supplier_ID)
VALUES ('Call of Duty', 'Action', 'Activision Publishing', '22-May-2019', 1292, 21900);
INSERT INTO Game (Game_name, Categories, Developer_name, Release_date, Order_ID,
Supplier_ID)
VALUES ('Fun Run', 'Racing', 'Rogue Games', '30-Dec-2021', 1267, 19655);
INSERT INTO Game (Game_name, Categories, Developer_name, Release_date, Order_ID,
Supplier_ID)
VALUES ('Score Match', 'Sport', 'Rogue Games', '09-May-2020', 1288, 22387);
SELECT * FROM Game:
INSERT INTO Live_stream (Stream_ID,Game_name,points,Stream_platform)
VALUES(51111,'MyFarm',30,'Discord');
```

INSERT INTO Live\_stream (Stream\_ID,Game\_name,points,Stream\_platform) VALUES(51112,'Stitch',40,'Tiktok');

INSERT INTO Live\_stream (Stream\_ID,Game\_name,points,Stream\_platform) VALUES(51113,'Call of Duty',56,'Twitch');

INSERT INTO Live\_stream (Stream\_ID,Game\_name,points,Stream\_platform) VALUES(51114,'Fun Run',3,'Discord');

INSERT INTO Live\_stream (Stream\_ID,Game\_name,points,Stream\_platform) VALUES(51115,'Score Match',90,'Twitch');

SELECT \* FROM Live\_stream;

```
INSERT INTO player(User_name,Stream_ID,Age) VALUES ('John22',51111,20);
INSERT INTO player(User_name,Stream_ID,Age) VALUES ('Sara_96',51112,17);
INSERT INTO player(User_name,Stream_ID,Age) VALUES ('Sami2',51113,30);
INSERT INTO player(User_name,Stream_ID,Age) VALUES ('Losi_Smith',51114,9);
INSERT INTO player(User_name,Stream_ID,Age) VALUES ('Joseph5',51115,27);
SELECT * FROM player;
```

INSERT INTO Match (User\_name, Game\_name, Score, Match\_date) VALUES ('John22', 'Call of Duty', 1025, '07-Feb-2022');

INSERT INTO Match (User\_name, Game\_name, Score, Match\_date) VALUES ('Sara\_96', 'Call of Duty', 6330, '07-Feb-2022');

INSERT INTO Match (User\_name, Game\_name, Score, Match\_date) VALUES ('Sami2', 'Fun Run', 2989, '12-Mar-2022');

INSERT INTO Match (User\_name, Game\_name, Score, Match\_date) VALUES ('Losi\_Smith', 'MyFarm', 90871, '29-Mar-2022');

INSERT INTO Match (User\_name, Game\_name, Score, Match\_date) VALUES ('Joseph5', 'Score Match', 22982, '14-Apr-2020');

SELECT \* FROM Match;

INSERT INTO Skill\_Level VALUES('John22','Advanced');
INSERT INTO Skill\_Level VALUES('Sara\_96','Beginner');
INSERT INTO Skill\_Level VALUES('Sami2','Intermediate');
INSERT INTO Skill\_Level VALUES('Losi\_Smith','Intermediate');
INSERT INTO Skill\_Level VALUES('Joseph5','Advanced');
SELECT \* FROM Skill Level;

INSERT INTO Investor VALUES(1256,23654,'John22','Ellen Roach','Shares','01-MAY-2021');

INSERT INTO Investor VALUES(1258,23624,'Sara\_96','Anton Morris','Fixed interest','4-MAY-2021');

INSERT INTO Investor VALUES(1292,23668,'Sami2','Camren Braun','Cash','12-JUN-2021');

INSERT INTO Investor VALUES(1267,24735,'Losi\_Smith','Tony Brady','Cash','15-JUN-2021');

INSERT INTO Investor VALUES(1288,24765,'Joseph5','Liam Oneal','Shares','19-JUN-2021');

SELECT \* FROM Investor;

INSERT INTO Invested\_Game(Game\_name,Investor\_ID) VALUES ('MyFarm',23654);

INSERT INTO Invested\_Game(Game\_name,Investor\_ID) VALUES ('Stitch',23624);

INSERT INTO Invested\_Game(Game\_name,Investor\_ID) VALUES ('Call of Duty',23668);

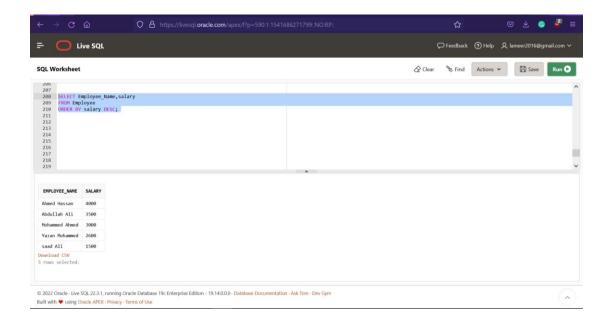
INSERT INTO Invested\_Game(Game\_name,Investor\_ID) VALUES ('Fun Run',24735);

INSERT INTO Invested\_Game(Game\_name,Investor\_ID) VALUES ('Score Match',24765);

SELECT \* FROM Invested\_Game;

# Part 3 Adding queries to the tables

## (Using Order BY QUERY)

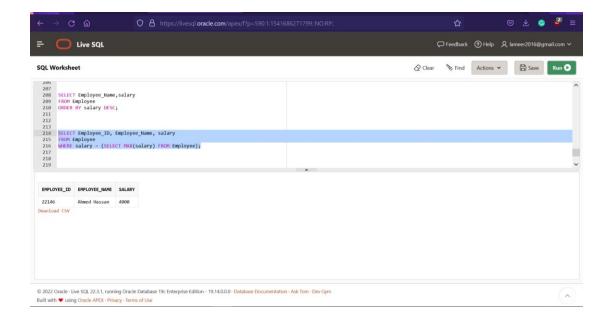


SELECT Employee\_Name,salary

FROM Employee

ORDER BY salary DESC;

## (Using Subquery)

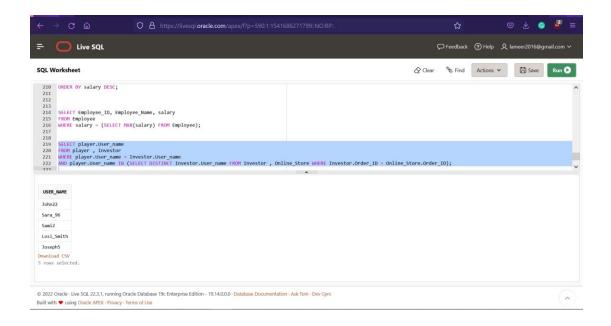


SELECT Employee\_ID, Employee\_Name, salary

FROM Employee

WHERE salary = (SELECT MAX(salary) FROM Employee);

## (Using Subquery)



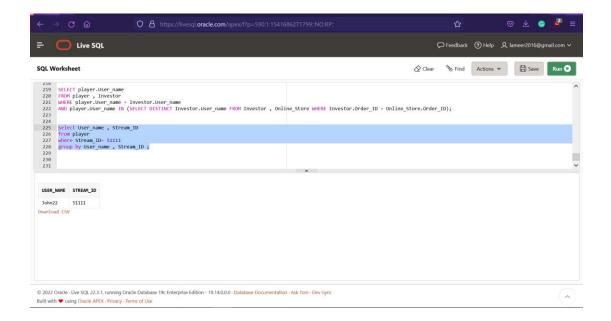
SELECT player.User\_name

FROM player, Investor

 $WHERE\ player.User\_name = Investor.User\_name$ 

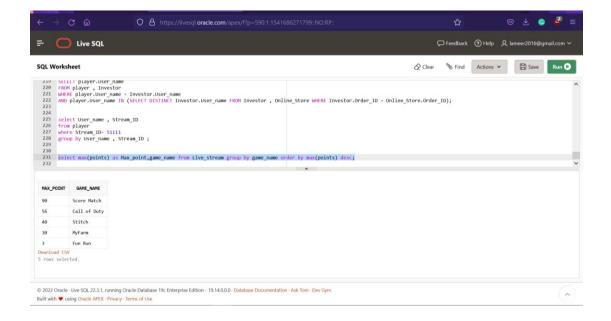
AND player.User\_name IN (SELECT DISTINCT Investor.User\_name FROM Investor, Online\_Store WHERE Investor.Order\_ID = Online\_Store.Order\_ID);

## (Using Group BY Query)



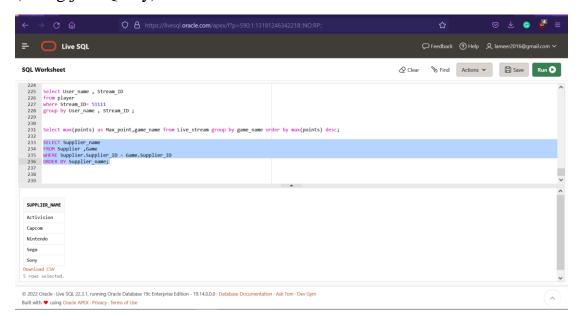
Select User\_name , Stream\_ID from player where Stream\_ID= 51111 group by User\_name , Stream\_ID ;

## (Using Aggregate function)



Select max(points) as Max\_point,game\_name from Live\_stream group by game\_name order by max(points) desc;

## (Using join Query)



SELECT Supplier\_name

FROM Supplier, Game

WHERE Supplier\_ID = Game.Supplier\_ID

ORDER BY Supplier\_name;