



ABSTRACT

This project focuses on analysing and managing a FIFA players dataset using SQL queries, stored procedures, and triggers. The dataset contains detailed information about football players, including personal attributes, performance statistics, and financial data such as market value, wages, and release clauses. Various SQL operations were performed to retrieve meaningful insights, such as identifying the highest-valued player, counting players from specific nationalities, and categorizing players based on wages. Advanced SQL features, including stored procedures and triggers, were implemented to automate tasks like fetching player details based on specific conditions and tracking wage changes. This project demonstrates the use of SQL in sports analytics and database management.

INTRODUCTION

Football clubs and organizations manage vast amounts of player-related data, including skills, market value, national team participation, and performance statistics. The aim of this project is to use SQL to efficiently query, analyse, and manage a FIFA players database.

The dataset includes attributes such as player name, age, nationality, height, preferred foot, playing position, wage, market value, and more. The project explores different SQL techniques:

- Data Retrieval: Fetching top-performing players, highest and lowest market values, and nationality-based counts.
- Sorting and Grouping: Ordering records based on player attributes like height, finishing skills, and wage.
- Advanced Features: Using CASE statements to categorize players, creating and deleting columns dynamically, and identifying specific player roles such as defenders.
- Stored Procedures: Automating queries to return player details based on given parameters.
- Triggers: Implementing an AFTER-UPDATE trigger to log wage changes for audit purposes.

This approach provides a structured way to maintain and analyse sports data, which can be crucial for scouting, contract negotiations, and performance assessment in real-world football management.

QUESTION

AND

ANSWERS

#1.fetch the details of highest value player from the table.

```
select * from fifa_players order by value_euro desc limit 1;
```

name	full_name	birth_date	age	height_cm	weight_lbs	positions	nationality	overall_rating	potential	value_euro	wage_euro	preferred_foot	international_reputation(1-5)	weak_foot(1-5)	skill_moves(1-5)	body_type
L. Messi	Lionel Andrés Messi Cuccittini	6/24/1987	31	170.18	72.1	CF,RW,ST	Argentina	94	94	110500000	565000	Left	5	4	4	Messi

Insight:

Highest value player is Messi.

#2.fetch the count of Brazil players from the table.

```
select count(nationality) as Brazil_players_count from fifa_players  
where nationality='Brazil';
```

	Brazil_players_count
▶	3

Insight :

3 brazilian players are available in dataset

#3.fetch the deatails of lowest age player from the table.

```
select * from fifa_players order by age limit 1;
```

name	full_name	birth_date	age	height_cm	weight_kg	positions	nationality	overall_rating	potential	value_euro	wage_euro	preferred_foot	international_reputation(1-10)	weak_foot(1-5)	skill_moves(1-5)	body_type
K. Mbappe	Kylian Mbappé	12/20/1998	20	182.4	73	RW,ST,AM	France	88	95	81000000	100000	Right	3	4	5	Lean

Insight :

Youngest player is k. Mbappe

#4.sort the records by value of increasing order of finishing.

select * from fifa_players order by finishing;

	name	full_name	birth_date	age	height_cm	weight_kgs	positions	nationality	overall_rating	potential	value_euro	wage_euro	preferred_foot	international_reputation(1-5)	weak_foot(1-5)	skill_moves(1-5)	body_t
▶	Kepa	Kepa Arrizabalaga	10/3/1994	24	185.42	84.8	GK	Spain	84	90	31000000	98000	Right	1	4	1	Lean
	M. Neuer	Manuel Neuer	3/27/1986	32	193.04	92.1	GK	Germany	89	89	38000000	130000	Right	5	4	1	Normal
	T. Courtois	Thibaut Courtois	5/11/1992	26	198.12	96.2	GK	Belgium	89	90	53500000	240000	Left	4	2	1	Courtois
	M. ter Stegen	Marc-André ter Stegen	4/30/1992	26	187.96	84.8	GK	Germany	89	92	58000000	240000	Right	3	4	1	Normal

Insight:

Analysis for finishing increasing order

#5.fetch the count of Preferred_foot from the table.

```
select preferred_foot,count(preferred_foot) as COUNT from fifa_players  
group by preferred_foot;
```

	preferred_foot	COUNT
▶	Left	9
	Right	23

Insight:

Most players are used preferred foot is right

#6.fetch the count of national players from the table.

```
select national_team,count(national_team) from fifa_players group by  
national_team;
```

	national_team	count(national_team)
▶	Argentina	4
	Denmark	1
	France	3
	Italy	2
		8

Insight :

To identifies national team selecting players

#7.fetch the full name of casemiro(player).

```
select full_name from fifa_players where name='Casemiro';
```

	full_name
▶	Carlos Henrique Venancio Casimiro

Insight:

To catch casemiro full name

#8.sort the records by increasing order of Height.

```
select * from fifa_players order by height_cm;
```

	name	full_name	birth_date	age	height_cm	weight_kgs	positions	nationality	overall_rating	potential	value_euro	wage_euro	preferred_foot	international_reputation(1-5)	weak_foot(1-5)	skill_moves
▶	K. Mbappé	Kylian Mbappé	12/20/1998	20	152.4	73	RW,ST,RM	France	88	95	81000000	100000	Right	3	4	5
P.	Dybala	Paulo Bruno Exequiel Dybala	11/15/1993	25	152.4	74.8	CAM,RW	Argentina	89	94	89000000	205000	Left	3	3	4
Fernandinho	Fernando Luiz Rosa	5/4/1985	33	152.4	67.1	CDM	Brazil	87	87	20500000	200000	Right	3	4	3	
C.	Eriksen	Christian Dannemann Eriksen	2/14/1992	27	154.94	76.2	CAM,RM,CM	Denmark	88	89	69500000	205000	Right	3	5	4

Insight :

To identified larg and low height player details

#9.fetch the details of players playing national team.

```
select * from fifa_players where national_team is not null;
```

name	full_name	birth_date	age	height_cm	weight_kgs	positions	nationality	overall_rating	potential	value_euro	wage_euro	preferred_foot	international_reputation(1-5)	weak_foot(1-5)	
L. Messi	Lionel AndrÃ©s Messi Cuccittini	6/24/1987	31	170.18	72.1	CF,RW,ST	Argentina	94	94	110500000	565000	Left	5	4	
C. Eriksen	Christian Dannemann Eriksen	2/14/1992	27	31	64.94	76.2	CAM,RM,CM	Denmark	88	89	69500000	205000	Right	3	5
P. Pogba	Paul Pogba	3/15/1993	25	190.5	83.9	CM,CAM	France	88	91	73000000	255000	Right	4	4	
L. Insigne	Lorenzo Insigne	6/4/1991	27	162.56	59	LW,ST	Italy	88	88	62000000	165000	Right	3	4	

Insight :

To understand national team players

#10.fetch the players name score most number of goals in penalty.

```
select name,penalties from fifa_players where penalties =(select max(penalties) from fifa_players);
```

	name	penalties
▶	P. Dybala	86

Insight :

Most penalty score player is dybala

#11.fetch the count of each players playing positions.

```
select positions,count(positions) as COUNT from fifa_players group by positions;
```

Insight :

	positions	COUNT
▶	CF,RW,ST	1
	CAM,RM,CM	1
	CM,CAM	1
	LW,ST	1
	CB	5

most players are playing CB position

#12.fetch the details of Highest players.

```
select * from fifa_players where height_cm =(select max(height_cm) from fifa_players);
```

name	full_name	birth_date	age	height_cm	weight_kgs	positions	nationality	overall_rating	potential	value_euro	wage_euro	preferred_foot	international_reputation(1-5)	weak_foot(1-5)	skill_moves(1-5)	body_type	release_clause_euro
T. Courtois	Thibaut Courtois	5/11/1992	26	198.12	96.2	GK	Belgium	89	90	53500000	240000	Left	4	2	1	Courtois	113700000

Insight :

Courtois is the large hight player

#13.fetch the deatails of defenders players.

```
select * from fifa_players where positions like '%CB%' or positions like '%RB%' or  
positions like '%LB%' ;
```

#	name	full_name	birth_date	age	height_cm	weight_kgs	positions	nationality	overall_rating	potential	value_euro	wage_euro	preferred_foot	international_reputation(1-5)	weak_foot(1-5)	skill_moves(1-5)
1	K. Koulibaly	Kalidou Koulibaly	6/20/1991	27	187.96	88.9	CB	Senegal	88	91	60000000	135000	Right	3	3	2
2	V. van Dijk	Virgil van Dijk	7/8/1991	27	193.04	92.1	CB	Netherlands	88	90	59500000	215000	Right	3	3	2
3	M. Á Innar	Milan Á Innar	2/11/1995	24	187.96	79.8	CB	Slovakia	86	93	53500000	89000	Right	1	4	2
4	J. Vertonghen	Jan Vertonghen	4/24/1987	31	187.96	86.2	CB	Belgium	87	87	34000000	155000	Left	3	3	3

Insight :

Identified the diffender players deatails mostly played position is CB

#14. temporary create a column based on a following particular conditions.

```
select *,  
       case  
         when wage_euro > 200000 then 'High value'  
         when wage_euro between 100000 and 200000 then 'Normal value'  
         when wage_euro < 100000 then 'low value'  
       end as wage_VALUE  
     From fifa_players;
```

acceleration	sprint_speed	agility	reactions	balance	shot_power	jumping	stamina	strength	long_shots	aggression	interceptions	positioning	vision	penalties	composure	marking	standing_tackle	sliding_tackle	wage_VALUE
91	86	93	95	95	85	68	72	66	94	48	22	94	94	75	96	33	28	26	High value
76	73	80	88	81	84	50	92	58	89	46	56	84	91	67	88	59	57	22	High value
71	79	76	82	66	90	83	88	87	82	78	64	82	88	82	87	63	67	67	High value
94	86	94	83	93	75	53	75	44	84	34	26	83	87	61	83	51	24	22	Normal value

Insight :

New column create a specific condition satisfies a specific statements are inserted

#15.fetch the details of the lowest release value player from the table.

```
select * from fifa_players order by release_clause_euro limit 1;
```

name	full_name	birth_date	age	height_cm	weight_kgs	positions	nationality	overall_rating	potential	value_euro	wage_euro	preferred_foot	international_reputation(1-5)	weak_foot(1-5)	skill_moves(1-5)	body_type
Fernandinho	Fernando Luiz Rosa	5/4/1985	33	152.4	67.1	CDM	Brazil	87	87	2050000	200000	Right	3	4	3	Lean

Insight :

Fernandhino is the lowest release value player

PROCEDURE AND TRIGGER

PROCEDURE:

- In SQL, a procedure (also known as a stored procedure) is a precompiled collection of SQL statements that can be executed as a single unit. It is often used to perform repetitive tasks, such as data manipulation, validation, or calculation.

TRIGGER:

- In SQL, a trigger is a special type of stored procedure that is automatically executed (or "triggered") when certain events occur on a specified table or view. Triggers are typically used for enforcing business rules, validating data, or synchronizing tables.

PROCEDURE 1:

```
DELIMITER //
CREATE PROCEDURE get_players()
BEGIN
select * from fifa_players order by age desc limit 1;
END //
DELIMITER ;
call get_players();
```

	name	full_name	birth_date	age	height_cm	weight_kgs	positions	nationality	overall_rating	potential	value_euro	wage_euro	preferred_foot	international_reputation(1-5)	weak_foot(1-5)	skill_moves(1-5)	body_type
▶	Fernandinho	Fernando Luiz Rosa	5/4/1985	33	152.4	67.1	CDM	Brazil	87	87	2050000	200000	Right	3	4	3	Lean

Insight :

Procedure is a stored function active only queries satisfies

PROCEDURE 2:

```
delimiter //
CREATE PROCEDURE get_foot(in var int, out character char(50))
begin
select name into character from fifa_players where Age=var limit 1;
end//
delimiter ;
call get_foot(31,@c);
select @c;
```

	@c
▶	L. Messi

Insight :

Procedure is a stored function active only satisfies these conditions

TRIGGER-after update

```
create table player_wage (
    id int auto_increment primary key,
    name varchar(50),
    old_wage_euro decimal (10,2),
    new_wage_euro decimal (10,2),
    changed_at timestamp default current_timestamp
);

delimiter //

create trigger log_wage_euro_update
after update on fifa_players
for each row
begin
insert into player_wage (name,old_wage_euro,new_wage_euro)
values(old.name,old.wage_euro,new.wage_euro);
end;
//
delimiter ;

update fifa_players set wage_euro = 98000.00
where name = 'Kepa';

select * from player_wage;
```

	id	name	old_wage_euro	new_wage_euro	changed_at
▶	1	Kepa	92000.00	98000.00	2025-02-13 12:27:57
*	NULL	NULL	NULL	NULL	NULL

Trigger is stored programme that is automatically executed when a specific event occurs in a table.

CONCLUSION

This SQL-based FIFA players project demonstrates how relational database management systems (RDBMS) can be used for sports analytics and player management. Through carefully crafted queries, valuable insights such as highest-valued players, wage classifications, and positional distributions were extracted. The use of stored procedures enhanced reusability and automation, while triggers provided real-time logging of important changes such as wage updates.

By combining data analysis with database management, this project highlights the importance of SQL in handling large sports datasets, supporting decision-making processes, and maintaining historical records. The same techniques can be extended to other sports or industries where player, employee, or asset data must be stored, analysed, and monitored effectively.