# ANALYSING A DATASET WITH SQL

MONEYBALL CHALLENGE

NEXTLEAP

MEDHA SINGH

LIP 4

# Task 1: Find the Top Performers

**Query:** Write a SQL query to list the top 5 players who have the highest number of goals scored. Include their name, team, goals scored, and position.

**Expected Output:** A table showing player names, their team names, goals scored, and their positions.

SQL ▾

```sql
1  SELECT players.name AS player_name, teams.team_name, players.goals_scored, players.position
2      FROM players JOIN teams ON players.team_id= teams.team_id
3      ORDER BY players.goals_scored DESC limit 5;
```

**Solution Accepted**

**Your Answer**

| player_name | team_name | goals_scored | position |
|---|---|---|---|
| Erling Haaland | Manchester City | 40 | Forward |
| Robert Lewandowski | Juventus | 35 | Forward |
| Lionel Messi | FC Barcelona | 30 | Forward |
| Cristiano Ronaldo | Juventus | 28 | Forward |
| Kylian Mbappe | Paris Saint-Germain | 27 | Forward |

**Explanation:** This task retrieves the top 5 players based on the number of goals scored. The output should include player name, team name, goals scored, and position.

# Task 2: Best Value for Money Players

**Query**: Write a SQL query to identify the top 3 players who provide the best value for money. "Value for money" is defined as the number of goals scored per unit of salary (goals/salary). Show player name, team name, goals, salary, and their calculated value-for-money ratio.

**Expected Output:** A table with player names, their team names, goals, salaries, and their value-for-money ratio, sorted in descending order.

```
SQL  ▾
```

```sql
1  SELECT name AS player_name,
2      team_name, goals_scored, salary,
3      Round((goals_scored*1000000.0)/salary,1)
4      AS value_for_money_ratio
5      from players as p JOIN teams
6      AS t on p.team_id = t.team_id
7      ORDER BY value_for_money_ratio DESC LIMIT 3;
```

**Solution Accepted**

**Your Answer**

| player_name | team_name | goals_scored | salary | value_for_money_ratio |
|---|---|---|---|---|
| Erling Haaland | Manchester City | 40 | 30000000 | 1.3 |
| Mohamed Salah | Paris Saint-Germain | 25 | 25000000 | 1.0 |
| Kylian Mbappe | Paris Saint-Germain | 27 | 30000000 | 0.9 |

**Explanation:** This task identifies the top 3 players with the highest goals-to-salary ratio. The output should include player name, team name, goals, salary, and their value-for-money ratio.

# Task 3: Team Performance Summary

**Query**: Write a SQL query to generate a summary report of each team's performance. The report should show the team name, number of wins, losses, draws, total goals scored by all its players, and the team's league position.

**Expected Output:** A table listing team names, their number of wins, losses, draws, total goals, and league position.

```sql
SELECT team_name, wins,losses, draws, sum (goals_scored)
    AS total_goals, league_position
    FROM teams JOIN players ON teams.team_id= players.team_id
    GROUP BY team_name, wins, losses, draws ORDER by league_position;
```

**Solution Accepted**

Your Answer

| team_name | wins | losses | draws | total_goals | league_position |
|---|---|---|---|---|---|
| Paris Saint-Germain | 22 | 2 | 3 | 62 | 1 |
| Manchester City | 21 | 4 | 1 | 65 | 2 |
| FC Barcelona | 20 | 3 | 2 | 33 | 3 |
| Juventus | 18 | 5 | 1 | 63 | 4 |

**Explanation**: This task summarizes team performance by showing each team's name, number of wins, losses, draws, total goals scored by its players, and league position.

# Task 4: Player Transfer Analysis

**Query:** Write a SQL query to find all players who have been transferred to a different team. Include player name, original team name, new team name, and the transfer fee.

**Expected Output:** A table showing player names, their original team, the team they transferred to, and the transfer fee.

```
1 v  SELECT name AS player_name, teams.team_name AS original_team, teams_2.team_name AS new_team, transfers.transfer_fee
2    FROM transfers
3    JOIN players ON transfers.player_id= players.player_id
4    JOIN teams ON transfers.from_team_id = teams.team_id
5    JOIN teams AS teams_2 ON transfers.to_team_id = teams_2.team_id
6    ORDER BY player_name;
```

**Solution Accepted**

Your Answer

| player_name | original_team | new_team | transfer_fee |
|---|---|---|---|
| Kevin De Bruyne | FC Barcelona | Paris Saint-Germain | 80000000 |
| Sergio Ramos | Paris Saint-Germain | FC Barcelona | 90000000 |
| Virgil van Dijk | Juventus | Manchester City | 70000000 |

**Explanation:** This task finds all players who were transferred, and displays their name, original team, new team, and the transfer fee.

# Task 5: Identify Potential Underperformers

**Query:** Write a SQL query to identify players who have played more than 10 matches but have scored fewer than 3 goals. Include their name, team, matches played, and goals scored.

**Expected Output:** A table with player names, their team, number of matches played, and their goals scored.

```sql
SELECT name AS player_name, team_name, matches_played, goals_scored
FROM players as p
JOIN teams as t ON t.team_id= p.team_id
where matches_played > 10 AND goals_scored <4;
```

**Solution Accepted**

**Your Answer**

| player_name | team_name | matches_played | goals_scored |
|---|---|---|---|
| Sergio Ramos | FC Barcelona | 21 | 3 |

**Explanation:** This task identifies players who played more than 10 matches but scored fewer than 3 goals. The output includes their name, team, number of matches played, and goals scored.

# Task 6: Team Budget Efficiency

**Query:** Write a SQL query to find the top 3 teams that have achieved the highest number of wins with the lowest budget. Show the team name, number of wins, and their budget.

**Expected Output:** A table with team names, number of wins, and their budget, sorted by the best win-to-budget ratio.

```sql
SELECT team_name, wins, budget, Round ((teams.wins* 1.0 /teams.budget)*1000000, 2)
    AS win_to_budget_ratio FROM teams
    ORDER by win_to_budget_ratio DESC LIMIT 3;
```

**Solution Accepted**

**Your Answer**

| team_name | wins | budget | win_to_budget_ratio |
|---|---|---|---|
| Juventus | 18 | 500000000 | 0.04 |
| FC Barcelona | 20 | 600000000 | 0.03 |
| Paris Saint-Germain | 22 | 700000000 | 0.03 |

**Explanation:** This task finds the top 3 teams that have the most wins relative to their budget. The output should include team name, number of wins, budget, and win-to-budget ratio.