**Sports Tournament Tracker**

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**Introduction**

The Sports Tournament Tracker is a SQL-based system designed to efficiently manage data for a sports tournament, including teams, players, match results, and individual player statistics.
The project allows recording of match outcomes, player performances, and automatically generates leaderboards and performance reports.
It was developed as part of the internship project to enhance database design, query-writing, and reporting skills using SQL.

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**Abstract**

This project implements a relational database management system (RDBMS) to manage a sports tournament. The database contains four main entities: **Teams**, **Players**, **Matches**, and **Stats** — with normalized relationships to avoid redundancy and ensure consistency.
Sample data for two teams and four players has been inserted, along with match records and player performance stats.
Using SQL queries, views, and Common Table Expressions (CTEs), the system generates:

- Match results & summaries
- Player leaderboards
- Team points table
- Average player performance

These reports can also be exported as .csv files for further analysis.
The project demonstrates the use of SQL features like JOIN, GROUP BY, CTE, and VIEW in a real-world context.

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**Tools Used**

- **MySQL Workbench** — for writing and executing SQL scripts, and exporting reports
- **SQL (Structured Query Language)** — for database schema design, queries, views, and CTEs
- **ER Diagram Tool** — ER diagram created and saved as:
  ER_DIAGRAM_sports_tracker.png

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**Steps Involved in Building the Project**

**1. Schema Design**

- Created four normalized tables: Teams, Players, Matches, and Stats.

- Established primary and foreign key constraints to enforce referential integrity.

**2. Sample Data Insertion**

- Inserted data for two teams, four players, one match, and corresponding player statistics.

**3. Query Writing**

- Wrote SQL queries to retrieve match results, player scores in a match, and team points.

**4. Views Creation**

- Created player_leaderboard view to show cumulative runs, wickets, and catches.
- Created team_points view to display the number of matches won by each team.

**5. CTE Usage**

- Implemented a CTE (WITH clause) to compute average performance (runs, wickets, catches) for each player across matches.

**6. Exporting Reports**

- Exported player_leaderboard and team_points views as .csv reports using MySQL Workbench.

**7. ER Diagram**

- Designed the ER diagram to illustrate table relationships and saved it as: ER_DIAGRAM_sports_tracker.png

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**Conclusion**

**The Sports Tournament Tracker successfully demonstrates the application of SQL in designing a robust and scalable database system for managing sports tournaments.**
**The project helped in understanding how to design normalized schemas, implement queries, generate meaningful insights using views and CTEs, and prepare exportable reports.**
**It provides a solid foundation for similar systems in domains like event management, leagues, and competitions, showcasing the power and flexibility of SQL for real-world scenarios**.

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**Deliverables**

- **sports_tournament.sql — SQL schema, data, queries, views, CTE**
- **README.md — Project documentation**
- **ER_DIAGRAM_sports_tracker.png — ER diagram screenshot**
- **Reports:**
    - **player_leaderboard_report.csv**
    - **team_points_report.csv**