

# Tutorial 8

The following schema is used for all exercises below (related to the Sports League Database):

Table Name	Key Column(s)	Other Columns	Relationships *
Teams	TeamID (PK)	TeamName, City, CoachName, FoundingYear	
Players	PlayerID (PK)	FirstName, LastName, TeamID (FK), Position, Salary (\$)	TeamID → Teams
Games	GameID (PK)	HomeTeamID (FK), AwayTeamID (FK), GameDate, Attendance	HomeTeamID, AwayTeamID → Teams
Stats	StatID (PK)	PlayerID (FK), GameID (FK), PointsScored, Fouls	PlayerID → Players, GameID → Games

\* `attribute_name → Table_name`, (ex: `TeamID → Teams`), means that column `attribute_name` (ex: `TeamID`) is the primary key of the relation `Table_name` (ex: `Teams`)

- The database name is: SDB
- All the key columns (associated with the `PRIMARY KEY` constraint), are also associated to the `Identity` Constraint

## Exercise 1:

Write The SQL queries that:

1. Increase the `Salary` of all players in the 'Forward' position by **5%**.
2. Update the `CoachName` for the team 'Eagles' to 'Coach Taylor' if their current number of players is **less than 15**.
3. Reduce the `Salary` of all players whose salary **exceeds \$150,000 more than the average salary** of all players by **12%**.

## Exercise 2:

Write The SQL queries that:

1. Insert a new player into the `Players` table with the last name 'Williams', first name 'Serena', position 'Guard', and a \$1,000,000 salary. Assume this player belongs to the team with `TeamID = 5`. Assume also, that `TeamID = 5` row already exists in the `Teams` table.
2. Delete the game record for the game with `GameID = 50`.
3. Delete all games that were played **more than 6 months ago**.

4. Insert a new team into the `Teams` table named 'The Dragons' from the city 'Atlanta'.
5. Insert a new game into the `Games` table that happened `today`, between the team 'Bears' (as `HomeTeam`) and the team 'Sharks' (as `AwayTeam`). Set the `Attendance` to 25,000.

### Exercise 3:

Write The SQL queries that:

1. Create a view named `Players_HighSalary` that includes the `PlayerID`, `FirstName`, `LastName`, and `Salary` for all players whose salary is greater than \$500,000.
2. Create a view named `Team_Revenue` that calculates the total revenue for each team based on their total recorded game attendance multiplied by a hypothetical ticket price of \$50. Include the `TeamName` and the calculated revenue.
3. Create a view named `Star_Players` of players who have scored a total of more than 500 points across all games.

### Exercise 4:

Write The SQL queries that:

1. Return a list of all views currently defined in the database (SDB).
2. List all tables in the database that were created in the current calendar year.
3. List the names of all columns across all tables whose name contains the word 'Name' (e.g., `TeamName`, `CoachName`).

### Exercise 5:

Write The SQL queries that:

1. Create a view named `Player_Game_Performance` that displays for each recorded stat line: the player's full name, the team name, the game date, the points scored, and a calculated Performance Ratio (`PointsScored` divided by `Fouls`). Knowing that, if the value of `Fouls` is Null or equal to 0, then the `Performance Ratio` must be NULL
2. Find the `TeamName` and `City` of teams that do not have any players currently assigned to them.
3. Display the `GameID`, the `GameDate`, and the `Attendance` in a text format:
  - If `Attendance` is less than 10,000, label it 'Low Attendance'.
  - If `Attendance` is between 10,000 and 30,000, label it 'Moderate Crowd'.
  - If `Attendance` is greater than 30,000, label it 'Sellout Game'.
4. Increase the `Salary` of all players using the following logic (use a single `UPDATE` statement with `CASE`):
  - Increase the salary by 5% for players in the 'Guard' position.
  - Increase the salary by 10% for players in the 'Center' position.
  - Keep other positions unchanged.

5. Find the `FirstName` and `LastName` of players who have **never committed a foul** (i.e., they have zero entries in the `Stats` table or all their `Fouls` entries are 0).
6. List the `TeamName` for teams whose players have an **average salary higher than \$800,000**.
7. Find the `TeamName` for teams whose players have **never scored more than 10 points** in any single game (based on the `Stats` table).