**SQL Joins – Mini Tasks for Learners**

**Objective:**

Apply different JOIN operations to answer real-world style questions from the two tables:

* **SportsEntry** → Player details
* **CoachInfo** → Coach details

**Tasks**

**🔹 Task 1: Find each player’s coach**

👉 Show player name, sport, and coach name. If no coach exists for the sport, still list the player.

SELECT s.PlayerName, s.SportName, c.CoachName

FROM SportsEntry s

LEFT JOIN CoachInfo c

ON s.SportName = c.SportName;

**🔹 Task 2: List all coaches and their players**

👉 Show coach name, sport, and player names. If a coach has no player, still list the coach.

SELECT c.CoachName, c.SportName, s.PlayerName

FROM SportsEntry s

RIGHT JOIN CoachInfo c

ON s.SportName = c.SportName;

**🔹 Task 3: Show only players who have a matching coach**

👉 Use INNER JOIN to return only players and coaches for matching sports.

SELECT s.PlayerName, s.SportName, c.CoachName

FROM SportsEntry s

INNER JOIN CoachInfo c

ON s.SportName = c.SportName;

**🔹 Task 4: Find all sports covered in system (players or coaches)**

👉 Even if a sport exists only in one table, it should appear.

SELECT s.SportName, s.PlayerName, c.CoachName

FROM SportsEntry s

FULL OUTER JOIN CoachInfo c

ON s.SportName = c.SportName;

*(In MySQL, use LEFT JOIN … UNION … RIGHT JOIN workaround)*

**🔹 Task 5: Generate all possible player–coach combinations**

👉 Use CROSS JOIN to create a matrix of every player with every coach.

SELECT s.PlayerName, c.CoachName

FROM SportsEntry s

CROSS JOIN CoachInfo c;

**🔹 Task 6 (Challenge 💡): Find Indian players and their Indian coaches**

👉 A filter with JOIN + WHERE.

SELECT s.PlayerName, s.Country AS PlayerCountry, c.CoachName, c.Country AS CoachCountry

FROM SportsEntry s

INNER JOIN CoachInfo c

ON s.SportName = c.SportName

WHERE s.Country = 'India' AND c.Country = 'India';

* **LEFT JOIN** → All players listed, even if no coach.
* **RIGHT JOIN** → All coaches listed, even if no player.
* **INNER JOIN** → Only pairs where both exist.
* **FULL OUTER JOIN** → Complete view of sports across both tables.
* **CROSS JOIN** → Combinatorial possibilities.
* **Challenge query** → Applying filters with joins.