



# Olympic Data Analysis – SQL Queries & Insights

## Project Overview

This project contains **14 SQL queries** designed to analyze Olympic Games data from multiple perspectives — athlete participation, medal counts, gender distribution, sports trends, and more. The dataset primarily comes from `athlete_events` and `noc_regions` tables.

The goal is not just to run SQL queries, but to extract **actionable insights** that can help governments, sports organizations, and analysts improve performance and participation in the Olympic Games.

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## Queries, Insights, and Suggestions

### Q1 – Sports with higher/lower number of athletes

- **Description:** Finds sports with the highest and lowest number of athletes.
  - **Insight:** Identifies sports that attract the most and least participation.
  - **Suggestion:** Low-participation sports can be promoted through outreach programs and better facilities.
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### Q2 – Region with least number of gold medals

- **Description:** Finds regions with the lowest gold medal counts.
  - **Insight:** These regions need to encourage athletes by providing better facilities and training support.
  - **Suggestion:** Governments in these regions should invest in sports academies, coaching programs, and athlete scholarships.
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### Q3 – City with highest athlete count for every region

- **Description:** Finds the top city per region based on athlete count.
  - **Insight:** Highlights sports hubs in each region.
  - **Suggestion:** These cities can serve as training centers and role models for other cities in the same region.
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### Q4 – Team with highest medal count

- **Description:** Finds the team with the most medals overall.

- **Insight:** These teams are performing exceptionally well. Other teams can study their training methods and government support.
  - **Suggestion:** National sports boards can replicate the facilities and strategies of top-performing teams.
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#### Q5 & Q9 – Age groups with highest medal-winning counts

- **Description:** Finds top 5 medal-winning ages (Q5) and ranks all age groups by medal count (Q9).
  - **Insight:** Athletes aged **22–26** win the most medals, showing the peak performance window.
  - **Suggestion:** Governments should provide free or subsidized high-quality training to athletes aged **21–30** so that financial barriers do not limit talent development.
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#### Q6 & Q7 – Male vs Female medal and athlete count

- **Description:** Q6 counts medals by gender; Q7 counts total male and female athletes.
  - **Insight:** Female athletes (73,934) are **less than half** of male athletes (187,037).
  - **Suggestion:** Sports organizations should promote women's participation with targeted programs, incentives, and equal opportunities.
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#### Q8 – Top 5 regions by medal type

- **Description:** Shows gold, silver, bronze, and total medal counts for top 5 regions.
  - **Insight:** USA, Russia, Germany, UK, and France dominate medal tables.
  - **Suggestion:** Other countries should analyze these regions' sports programs and adopt successful practices.
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#### Q10 – Top 5 athletes with most medals

- **Description:** Lists the five athletes with the highest total medals.
  - **Insight:** These athletes are legends who can inspire the next generation.
  - **Suggestion:** Use them as sports ambassadors, mentors, and role models in training programs.
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#### Q11 – Male vs Female athlete count by country

- **Description:** Country-wise gender distribution of athletes.
- **Insight:** Reveals gender participation gaps country-by-country.

- **Suggestion:** Countries with large gaps should focus on gender equity in sports funding.
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#### Q12 – Sports-wise male/female distribution

- **Description:** Gender split per sport, including female-dominated sports.
  - **Insight:** Sports like figure skating, badminton, synchronized swimming, rhythmic gymnastics, and softball have higher female participation.
  - **Suggestion:** These sports can be further promoted among women in countries where female sports participation is low.
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#### Q13 – Year-wise event counts in Summer & Winter Olympics

- **Description:** Tracks the number of events per season per year.
  - **Insight:**
    - Before 1924, no Winter Olympics events existed.
    - From 1924–1992, Summer events far exceeded Winter events.
    - Since 1994, Summer and Winter Olympics are held in alternating years.
  - **Suggestion:** Winter sports federations can target countries without strong winter sports traditions for growth.
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#### Q14 – Region-wise sports with highest winning count

- **Description:** Finds each region's top-performing sport.
- **Insight:** Shows the "star sport" for each country.
- **Suggestion:** Promote these sports as national specialties and encourage younger athletes to take them up.