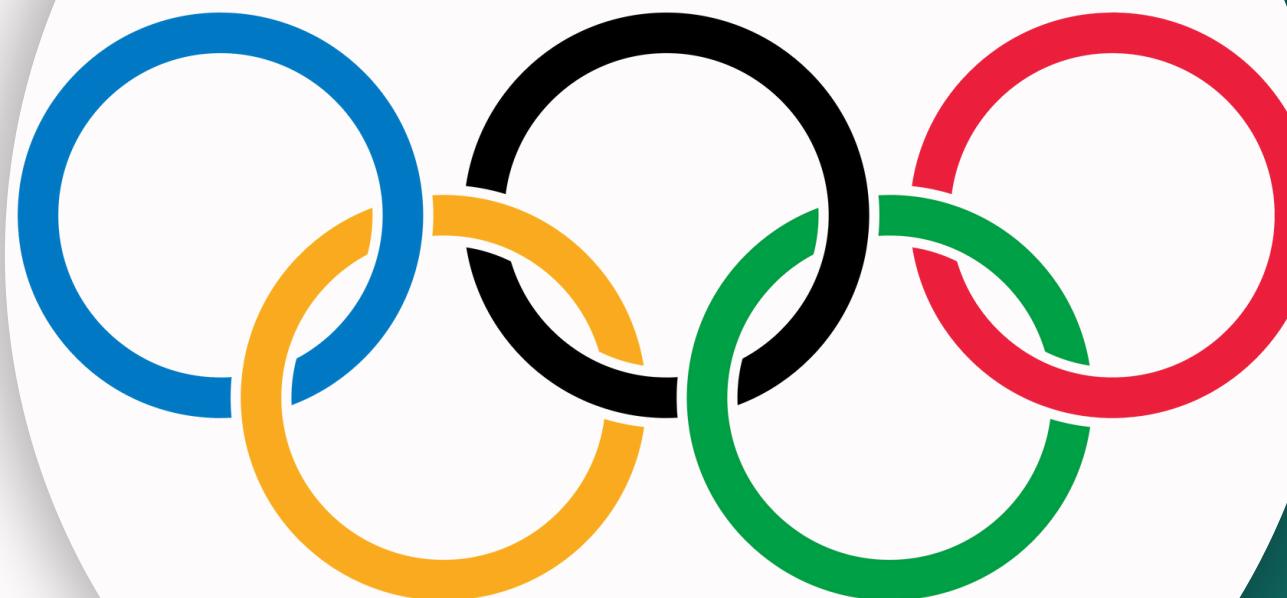


Olympics Dataset Analysis

Sridharan S

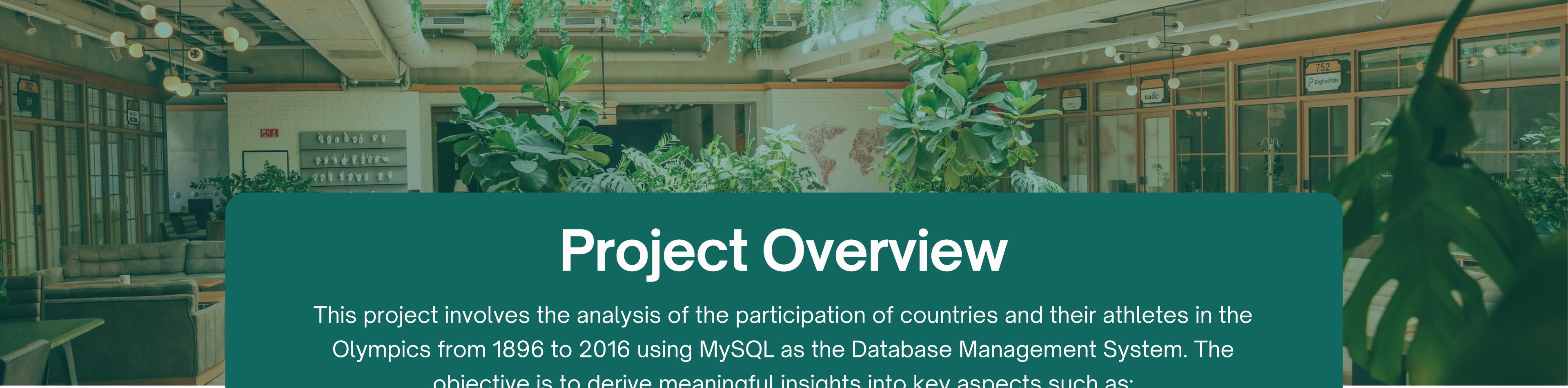


Overview

- Project Overview
- Dataset
- Analysis
- Conclusion

03
04
05
17





Project Overview

This project involves the analysis of the participation of countries and their athletes in the Olympics from 1896 to 2016 using MySQL as the Database Management System. The objective is to derive meaningful insights into key aspects such as:

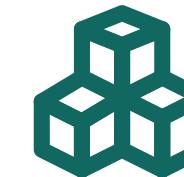
- Athlete performance.
- Country-wise medal tallies.
- Trends in sports and events over the years.

Through this analysis, we aim to uncover historical trends, exceptional performances, and country dominance in different sports across the Olympic Games.



Dataset:

The dataset is obtained from an open-source platform (*Dataset*). It provides comprehensive details on Olympic events over a span of 120 years, from Athens 1896 to Rio 2016.



Key Attributes

- **Player Details:** Unique Player ID, Name, and Gender.
- **Demographics:** Age, Height, Weight.
- **Country:** The country and National Olympic Committee (NOC) they represented.
- **Participation Details:** Year, City, and Season (Summer or Winter).
- **Sport and Event:** The sport and specific event in which they competed.
- **Medals:** Medals won by the athletes (Gold, Silver, Bronze).

Q 1:

How many olympics games have been held?

```
Select count(distinct(games)) as Total_olympic_games  
FROM olympics.athlete_details;
```

Q 2 :

List down all Olympics games held so far.

```
SELECT DISTINCT(games) AS Total_olympic_games, year, season, city  
FROM athlete_details ORDER BY year
```

Q 3 :

Mention the total no of nations who participated in each olympics game.

```
SELECT games, COUNT(DISTINCT(TEAM)) AS total_countries  
FROM athelete_details  
GROUP BY games ORDER BY total_countries DESC;
```

Q 4 :

Which year saw the highest and lowest no of countries participating in Olympics?

```
SELECT games, COUNT(DISTINCT(TEAM)) AS total_countries  
FROM athelete_details  
GROUP BY games ORDER BY total_countries DESC  
LIMIT 1;
```

```
SELECT games, COUNT(DISTINCT(TEAM)) AS total_countries  
FROM athelete_details  
GROUP BY games ORDER BY total_countries ASC  
LIMIT 1
```

Q 5 :

Which nation has participated in all of the olympic games?

```
SELECT team, COUNT(DISTINCT(GAMES)) AS total_games
FROM athelete_details
GROUP BY team
HAVING COUNT(DISTINCT (GAMES)) = (SELECT COUNT(DISTINCT (GAMES)) FROM athelete_details)
```

Q 6:

Identify the sport which was played in all summer olympics.

```
SELECT sport FROM athelete_details  
WHERE season = 'summer' GROUP BY sport  
HAVING COUNT(DISTINCT year) = (SELECT COUNT(DISTINCT year)  
                                FROM athelete_details WHERE season = 'Summer'));
```

Q 7 :

Which Sports were just played only once in the olympics?

```
SELECT sport FROM athelete_details  
GROUP BY sport  
HAVING COUNT(DISTINCT (games)) = 1
```

Q 8 :

Fetch the total no of sports played in each olympic games.

```
SELECT games, count(DISTINCT(sport)) FROM athelete_details  
GROUP BY games
```

Q 9 :

Fetch oldest athletes to win a gold medal.

```
SELECT * FROM athelete_details  
WHERE medal = "gold"  
GROUP BY name ORDER BY age DESC  
LIMIT 5
```

Q 10 :

Find the Ratio of male and female athletes participated in all olympic games.

```
SELECT  
    SUM(CASE WHEN sex = 'm' THEN 1 ELSE 0 END) AS total_male,  
    SUM(CASE WHEN sex = 'f' THEN 1 ELSE 0 END) AS total_female,  
    ROUND(SUM(CASE WHEN sex = 'm' THEN 1 ELSE 0 END) /  
          SUM(CASE WHEN sex = 'f' THEN 1 ELSE 0 END), 2) AS male_to_female_ratio  
FROM athelete_details;
```

Q 11 :

Fetch the top 5 athletes who have won the most gold medals.

```
Select name, count(medal) FROM athelete_details  
WHERE medal = "gold"  
GROUP BY name ORDER BY count(medal) DESC  
LIMIT 5
```

Q 12 :

Fetch the top 5 athletes who have won the most medals (gold/silver/bronze).

```
Select name, count(medal) FROM athelete_details  
GROUP BY name ORDER BY count(medal) DESC  
LIMIT 5;
```

Q 13 :

Fetch the top 5 most successful countries in olympics. Success is defined by no of medals won.

```
Select team, count(medal) FROM athelete_details  
GROUP BY team ORDER BY count(medal) DESC  
LIMIT 5;
```

Q 14 :

List down total gold, silver and bronze medals won by each country

```
SELECT team,  
       SUM(CASE WHEN medal = 'Gold' THEN 1 ELSE 0 END) AS gold_medals,  
       SUM(CASE WHEN medal = 'Silver' THEN 1 ELSE 0 END) AS silver_medals,  
       SUM(CASE WHEN medal = 'Bronze' THEN 1 ELSE 0 END) AS bronze_medals  
FROM athelete_details  
GROUP BY team  
ORDER BY gold_medals DESC , silver_medals DESC, bronze_medals DESC;
```

Q 15 :

List down total gold, silver and bronze medals won by each country corresponding to each olympic games.

```
SELECT games, team,
       SUM(CASE WHEN medal = 'Gold' THEN 1 ELSE 0 END) AS gold_medals,
       SUM(CASE WHEN medal = 'Silver' THEN 1 ELSE 0 END) AS silver_medals,
       SUM(CASE WHEN medal = 'Bronze' THEN 1 ELSE 0 END) AS bronze_medals
  FROM athelete_details
 GROUP BY team ORDER BY games;
```

Q 16 :

Identify which country won the most gold, most silver and most bronze medals in each olympic games.

```
WITH MedalCounts AS (SELECT Year, team,
    SUM(CASE WHEN Medal = 'Gold' THEN 1 ELSE 0 END) AS gold_medals,
    SUM(CASE WHEN Medal = 'Silver' THEN 1 ELSE 0 END) AS silver_medals,
    SUM(CASE WHEN Medal = 'Bronze' THEN 1 ELSE 0 END) AS bronze_medals
FROM athelete_details GROUP BY Year, team)
SELECT Year, team,
    'Gold' AS medal_type, team AS gold_country, gold_medals AS gold_count
FROM MedalCounts
WHERE gold_medals = (SELECT MAX(gold_medals) FROM MedalCounts WHERE Year = MedalCounts.Year AND team = MedalCounts.team)
UNION ALL
    SELECT Year, team, 'Silver' AS medal_type, team AS silver_country, silver_medals AS silver_count
    FROM MedalCounts
    WHERE silver_medals = (SELECT MAX(silver_medals) FROM MedalCounts WHERE Year = MedalCounts.Year AND team = MedalCounts.team)
UNION ALL
    SELECT Year, team, 'Bronze' AS medal_type, team AS bronze_country, bronze_medals AS bronze_count
    FROM MedalCounts
    WHERE bronze_medals = (SELECT MAX(bronze_medals) FROM MedalCounts WHERE Year = MedalCounts.Year AND team = MedalCounts.team)
```

Q 17 :

Identify which country won the most gold, most silver, most bronze medals and the most medals in each olympic games.

```
• Ⓜ WITH MedalCounts AS (SELECT Year, team,
    SUM(CASE WHEN Medal = 'Gold' THEN 1 ELSE 0 END) AS gold_medals,
    SUM(CASE WHEN Medal = 'Silver' THEN 1 ELSE 0 END) AS silver_medals,
    SUM(CASE WHEN Medal = 'Bronze' THEN 1 ELSE 0 END) AS bronze_medals,
    SUM(CASE WHEN Medal IN ('Bronze', 'Gold', 'Silver') THEN 1 ELSE 0 END) AS total_medals
    FROM athelete_details GROUP BY Year, team)
    SELECT Year, team, 'Gold' AS medal_type, team AS gold_country, gold_medals AS gold_count
    FROM MedalCounts
    WHERE gold_medals = (SELECT MAX(gold_medals) FROM MedalCounts WHERE Year = MedalCounts.Year AND team = MedalCounts.team)
UNION ALL
    SELECT Year, team, 'Silver' AS medal_type, team AS silver_country, silver_medals AS silver_count
    FROM MedalCounts
    WHERE silver_medals = (SELECT MAX(silver_medals) FROM MedalCounts WHERE Year = MedalCounts.Year AND team = MedalCounts.team)
UNION ALL
    SELECT Year, team, 'Bronze' AS medal_type, team AS bronze_country, bronze_medals AS bronze_count
    FROM MedalCounts
    WHERE bronze_medals = (SELECT MAX(bronze_medals) FROM MedalCounts WHERE Year = MedalCounts.Year AND team = MedalCounts.team)
UNION ALL
    SELECT Year, team, 'Total' AS medal_type, team AS MAX_Medal_country, total_medals AS total_count
    FROM MedalCounts
    WHERE bronze_medals = (SELECT MAX(total_medals) FROM MedalCounts WHERE Year = MedalCounts.Year AND team = MedalCounts.team)
```

Q 18 :

Which countries have never won gold medal but have won silver/bronze medals?

```
WITH MedalCounts AS (SELECT Year, team,
    SUM(CASE WHEN Medal = 'Gold' THEN 1 ELSE 0 END) AS gold_medals,
    SUM(CASE WHEN Medal = 'Silver' THEN 1 ELSE 0 END) AS silver_medals,
    SUM(CASE WHEN Medal = 'Bronze' THEN 1 ELSE 0 END) AS bronze_medals
FROM athelete_details GROUP BY team)

SELECT team, gold_medals, silver_medals, bronze_medals
FROM MedalCounts
WHERE gold_medals = 0 AND (silver_medals > 0 OR bronze_medals > 0)
ORDER BY team;
```

Q 19 :

In which Sport/event, India has won highest medals.

```
Select sport, team, count(medal) FROM athelete_details
WHERE team = "india"
GROUP BY sport, team ORDER BY count(medal) DESC
LIMIT 1
```

Q 20 :

Break down all olympic games where India won medal for Hockey and how many medals in each olympic games.

```
SELECT games, sport, team, COUNT(*) AS total_medals
FROM athelete_details
WHERE team = 'India' AND Sport = 'Hockey' AND Medal IS NOT NULL
GROUP BY games, team
ORDER BY games DESC, team;
```

Conclusion

- The analysis of Olympic data from 1896 to 2016 highlights the growth of global sports, with increasing participation from countries and athletes.
- Dominance by nations like the USA, Russia, and China underscores the impact of investments in sports infrastructure. Trends reveal rising gender inclusivity and evolving preferences in sports.
- Exceptional athlete performances and changing medal tallies reflect progress and global diversity. The dataset provides a comprehensive view of the transformative power of sports across countries.