**Queries for Olympic Data Analysis:**

1. Create and Use the Database:

CREATE DATABASE OlympicData;

USE OlympicData;

1. Verify Successful Data Import:

SELECT TOP 10 \* FROM athlete\_events;

SELECT TOP 10 \* FROM noc\_regions;

1. Handle 'NA' Values in the Medal Column:

UPDATE athlete\_events SET Medal = NULLIF(Medal, 'NA');

1. Number of Rows and Columns in the athlete\_events Table

SELECT

(SELECT COUNT(\*) FROM athlete\_events) AS NumberOfRows,

(SELECT COUNT(\*) FROM INFORMATION\_SCHEMA.COLUMNS WHERE TABLE\_NAME = 'athlete\_events') AS NumberOfColumns;

1. List Column Names in the athlete\_events Table

SELECT COLUMN\_NAME FROM INFORMATION\_SCHEMA.COLUMNS WHERE TABLE\_NAME = 'athlete\_events';

1. Descriptive Statistics for Age, Height, and Weight

SELECT

MIN(Age) AS Min\_Age, MAX(Age) AS Max\_Age,

MIN(Height) AS Min\_Height, MAX(Height) AS Max\_Height,

MIN(Weight) AS Min\_Weight, MAX(Weight) AS Max\_Weight

FROM athlete\_events;

1. Total Number of Duplicate Records (Same Name, Year, Event):

SELECT COUNT(\*) AS TotalDuplicates

FROM (

SELECT Name, Year, Event, COUNT(\*) AS DuplicateCount

FROM athlete\_events

GROUP BY Name, Year, Event

HAVING COUNT(\*) > 1

) AS Duplicates;

1. Delete Duplicate Records

WITH CTE\_Duplicates AS (

SELECT ID, ROW\_NUMBER() OVER (PARTITION BY Name, Year, Event ORDER BY ID) AS rn

FROM athlete\_events )

DELETE FROM CTE\_Duplicates WHERE rn > 1;

9. Total Missing Values:

SELECT COUNT(\*) AS MissingValues FROM athlete\_events WHERE Age IS NULL OR Height IS NULL OR Weight IS NULL OR Medal IS NULL;

# Olympic Game Statistics:

1. How Many Olympic Games Have Been Held

SELECT COUNT(DISTINCT Year) AS TotalOlympicGames FROM athlete\_events;

1. List of All Olympic Games Held So Far

SELECT DISTINCT Year FROM athlete\_events ORDER BY Year;

1. Total Number of Nations Participating in Each Olympic Game:

SELECT Year, COUNT(DISTINCT NOC) AS TotalNations FROM athlete\_events GROUP BY Year ORDER BY Year;

1. Year with the Highest and Lowest Number of Participating Nations

Highest:

SELECT TOP 1 Year, COUNT(DISTINCT NOC) AS TotalNations

FROM athlete\_events GROUP BY Year ORDER BY TotalNations DESC;

Lowest:

SELECT TOP 1 Year, COUNT(DISTINCT NOC) AS TotalNations

FROM athlete\_events GROUP BY Year ORDER BY TotalNations ASC;

1. Nations Participating in All Olympic Games

SELECT NOC FROM athlete\_events GROUP BY NOC HAVING COUNT(DISTINCT Year) = (SELECT COUNT(DISTINCT Year) FROM athlete\_events);

1. Sports Played in All Summer Olympics

SELECT Sport FROM athlete\_events WHERE Season = 'Summer'

GROUP BY Sport

HAVING COUNT(DISTINCT Year) = (SELECT COUNT(DISTINCT Year)

FROM athlete\_events WHERE Season = 'Summer');

1. Sports Played Only Once in the Olympics

SELECT Sport FROM athlete\_events

GROUP BY Sport HAVING COUNT(DISTINCT Year) = 1;

1. Total Number of Sports Played in Each Olympic Game

SELECT Year, COUNT(DISTINCT Sport) AS TotalSports

FROM athlete\_events

GROUP BY Year ORDER BY Year;

1. Details of the Oldest Athlete to Win a Gold Medal

SELECT TOP 1 Name, Age, Team, Year, Sport, Event

FROM athlete\_events

WHERE Medal = 'Gold'

ORDER BY Age DESC;

# Athlete and Medal Statistics

1. Ratio of Male and Female Athletes Participating

SELECT Sex, COUNT(\*) \* 1.0 / (SELECT COUNT(\*) FROM athlete\_events) AS Ratio

FROM athlete\_events GROUP BY Sex;

1. Top 5 Athletes Who Won the Most Gold Medals:

SELECT TOP 5 Name, COUNT(Medal) AS GoldMedals

FROM athlete\_events WHERE Medal = 'Gold'

GROUP BY Name ORDER BY GoldMedals DESC;

1. Top 5 Athletes Who Won the Most Medals (Gold, Silver, Bronze)

SELECT TOP 5 Name, COUNT(Medal) AS TotalMedals

FROM athlete\_events

WHERE Medal IN ('Gold', 'Silver', 'Bronze')

GROUP BY Name ORDER BY TotalMedals DESC;

1. Top 5 Most Successful Countries by Number of Medals

SELECT TOP 5 NOC, COUNT(\*) AS TotalMedals

FROM athlete\_events

WHERE Medal IN ('Gold', 'Silver', 'Bronze')

GROUP BY NOC ORDER BY TotalMedals DESC;

1. Total Gold, Silver, and Bronze Medals Won by Each Country

SELECT NOC,

COUNT(CASE WHEN Medal = 'Gold' THEN 1 END) AS GoldMedals,

COUNT(CASE WHEN Medal = 'Silver' THEN 1 END) AS SilverMedals,

COUNT(CASE WHEN Medal = 'Bronze' THEN 1 END) AS BronzeMedals

FROM athlete\_events

GROUP BY NOC ORDER BY NOC;

1. Top 10 Athletes with Most Medals

SELECT TOP 10 ae.Name, COUNT(ae.Medal) AS MedalCount

FROM athlete\_events ae

WHERE ae.Medal IS NOT NULL

GROUP BY ae.Name ORDER BY MedalCount DESC;

1. Countries That Have Never Won a Gold Medal but Have Won Silver/Bronze Medals

SELECT NOC FROM athlete\_events

GROUP BY NOC

HAVING SUM(CASE WHEN Medal = 'Gold' THEN 1 ELSE 0 END) = 0

AND SUM(CASE WHEN Medal IN ('Silver', 'Bronze') THEN 1 ELSE 0 END) > 0;

1. Top 5 Countries in Each Olympic Game by Total Medals

SELECT Year, NOC,

COUNT(CASE WHEN Medal = 'Gold' THEN 1 END) AS GoldMedals,

COUNT(CASE WHEN Medal = 'Silver' THEN 1 END) AS SilverMedals,

COUNT(CASE WHEN Medal = 'Bronze' THEN 1 END) AS BronzeMedals,

COUNT(\*) AS TotalMedals

FROM athlete\_events

GROUP BY Year, NOC

ORDER BY Year, TotalMedals DESC;

1. India’s Performance in Hockey

SELECT Year, COUNT(\*) AS TotalMedals

FROM athlete\_events

WHERE NOC = 'IND' AND Sport = 'Hockey' AND Medal IN ('Gold', 'Silver', 'Bronze')

GROUP BY Year

ORDER BY Year;