

Olympics Project Report

Introduction

The Olympic Games are one of the most iconic global events, uniting thousands of athletes across countries and sports. In this project, we perform descriptive analysis to explore athlete demographics, medal counts, and national team performance using data from past Olympic events. The resulting database and application allow users to interact with the data, view trends by sport and gender, and identify top-performing athletes and teams. This tool may benefit sports analysts, students, and anyone interested in Olympic history or data-driven storytelling.

Data

This project will contain data from a 2023 Kaggle dataset¹ about athletic performance in the Summer and Winter Olympic Games. The original data contains 15 columns and 70,000 rows of data. We took a random sample of the data and reduced the number of rows to 5,642 rows of data with 19 total columns. Table 1 displays a description of the data.

It is important to note that we randomly selected these 5,642 rows of data. However, there is a known bias where all of the athletes in the data sample happen to all have a last name starting with the letter “A”. Because of this, the visualizations and analysis may not accurately represent the broader population of Olympic athletes.

Figure 1: Data Dictionary

Field	Type	Description
AthleteID	Numeric	Unique identifier for each athlete
First Name	Text	First name of the athlete
Last Name	Text	Last name of the athlete
Middle Name	Text	Middle name of the athlete
Sex	Text	Gender of the athlete (M/F)
Height	Numeric	Height of the athlete (cm)
Weight	Numeric	Weight of the athlete (kg)
TeamID	Text	Unique ID for each team
Team	Text	Team of the athlete (usually a country name)
NOC	Text	National Olympic Committee (NOC) code
LocationID	Text	Unique ID for a specific Olympic Games

¹ <https://www.kaggle.com/datasets/bhanupratapbiswas/olympic-data>

Year	Numeric	Year of the Olympic Games
Season	Text	Season of the Olympic Games (Winter or Summer)
City	Text	City of the Olympic Games
EventID	Text	Unique ID for a specific event
Sport	Text	Sports category the athlete competed in
EventName	Text	Name of specific event an athlete competed in
Age	Numeric	Age of the athlete when competing in a specific event at a specific Olympic Game
Medal	Text	Medal won (Gold, Silver, Bronze, or NULL if no medal was won)

Relational Schema

Based on our constructed ER Diagram, we created a relational schema using the 5 normalized tables. The participation table acts as a bridge helping to link the athlete, event, location, and team tables that also includes the relationship attributes of Age and Medal.

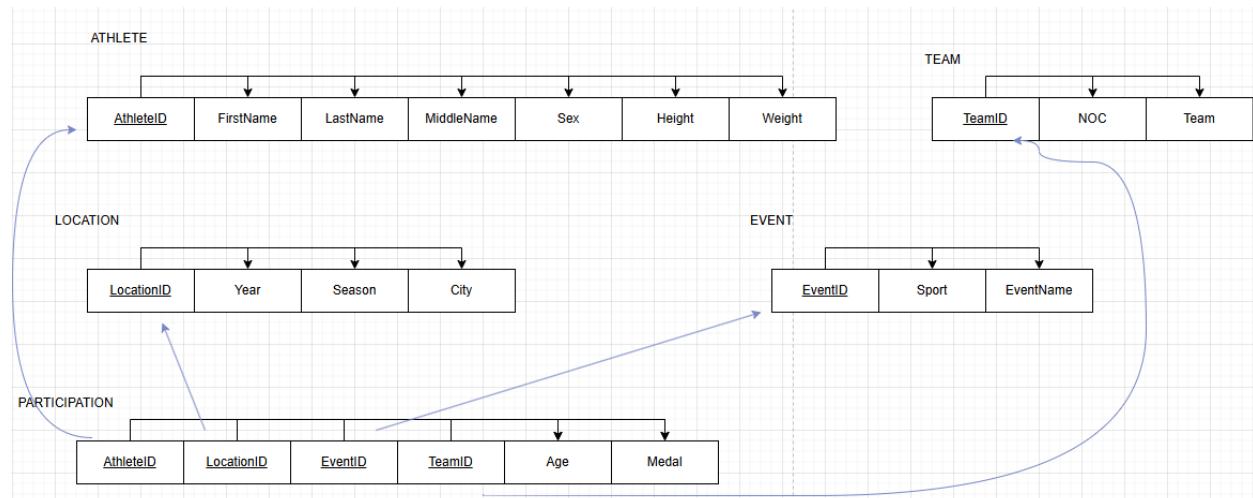


Figure 2: Relational Schema

Database Implementation

To implement the database in Apex, we wrote CREATE TABLE commands for all of the tables shown in the relational schema. The tables were created in the following order with participation needing to be last due to the foreign key constraints:

ATHLETE

```
CREATE TABLE ATHLETE (
    AthleteID NUMBER(4,0) NOT NULL,
    FirstName VARCHAR2(100) NOT NULL,
    LastName VARCHAR2(100),
    MiddleName VARCHAR2(100),
    Sex CHAR(1) NOT NULL,
    Weight NUMBER(4,1),
    Height NUMBER(4,1),
    CONSTRAINT ATHLETE_PK PRIMARY KEY (AthleteID)
);
```

TEAM

```
CREATE TABLE TEAM (
    TeamID CHAR(4) NOT NULL,
    NOC CHAR(3) NOT NULL,
    Team VARCHAR2(100) NOT NULL,
    CONSTRAINT TEAM_PK PRIMARY KEY (TeamID)
);
```

LOCATION

```
CREATE TABLE LOCATION (
    LocationID CHAR(4) NOT NULL,
    Year NUMBER(4,0) NOT NULL,
    Season VARCHAR2(10) NOT NULL,
    City VARCHAR2(50) NOT NULL
    CONSTRAINT LOCATION_PK PRIMARY KEY (LocationID)
);
```

EVENT

```
CREATE TABLE EVENT (
    EventID CHAR(4) NOT NULL,
    Sport VARCHAR2(100) NOT NULL,
```

```
EventName VARCHAR2(100) NOT NULL,  
CONSTRAINT EVENT_PK PRIMARY KEY (EventID)  
);
```

PARTICIPATION

```
CREATE TABLE PARTICIPATION (  
AthleteID NUMBER(4,0) NOT NULL,  
LocationID CHAR(4) NOT NULL,  
EventID CHAR(4) NOT NULL,  
TeamID CHAR(4) NOT NULL,  
Age NUMBER(2,0),  
Medal VARCHAR2(6),  
CONSTRAINT PARTICIPATION_PK PRIMARY KEY (AthleteID,LocationID,EventID,TeamID),  
CONSTRAINT PARTICIPATION_FK1 FOREIGN KEY (AthleteID) REFERENCES ATHLETE (AthleteID),  
CONSTRAINT PARTICIPATION_FK2 FOREIGN KEY (LocationID) REFERENCES LOCATION (LocationID),  
CONSTRAINT PARTICIPATION_FK3 FOREIGN KEY (EventID) REFERENCES EVENT (EventID),  
CONSTRAINT PARTICIPATION_FK4 FOREIGN KEY (TeamID) REFERENCES TEAM (TeamID)  
);
```

The cleaned and normalized data was uploaded to the database using APEX's Load Data function. The final version of the of the ATHLETE table contained 3,185 rows, TEAM contained 189 rows, LOCATION contained 51 rows, EVENT contained 511 rows, and PARTICIPATION contained 5,639 rows. Examples of INSERT commands for each table are on the next page:

ATHLETE

```
INSERT INTO ATHLETE (AthleteID, FirstName, LastName, Sex)  
VALUES (101, 'Simone', 'Biles', 'F');
```

TEAM

```
INSERT INTO TEAM (TeamID, Team)
VALUES (T010, 'United States');
```

LOCATION

```
INSERT INTO LOCATION (LocationID, City, Year)
VALUES (L301, 'Tokyo', 2020);
```

EVENT

```
INSERT INTO EVENT (EventID, EventName, Sport)
VALUES (E001, 'Women\''s Floor Exercise', 'Gymnastics');
```

PARTICIPATION

```
INSERT INTO PARTICIPATION (AthleteID, TeamID, EventID, LocationID, Age, Medal)
VALUES (101, T010, E001, L301, 24, 'Gold');
```

Across all tables, there were appropriate data types and field sizes that were selected to protect the data integrity. For instance, the Sex field uses a single character that is able to represent gender (M or F), and Age is stored as a two-digit number that reflects the age range of Olympic athletes. The Field-level constraints like NOT NULL and PRIMARY KEY were applied to the field level to enforce that the data was complete and able to maintain its uniqueness across all the key identifiers.

Analysis

Question 1: Who are the most decorated athletes in this Olympic data set?

Answer: The chart and table below show the athletes with the highest number of medals won across all Olympic Games, based on the sampled data. Each athlete is listed with their first and last name, country, total medal count, and the year of their most recent Olympic appearance.

To answer this question, we composed a join query that counted the total number of medals won by each athlete across all Olympic Games, grouped by their name and team. We also included the year of their most recent Olympic appearance. The query excludes any records where the athlete did not win a medal. The second query is used to display the top athletes only by medal count to supplement the first query with further details.

Query 1:

```
SELECT
```

```

ATHLETE.LastName || ' ' || ATHLETE.FirstName AS FullName,
TEAM.Team,
MAX(LOCATION.Year) AS MostRecentGame
FROM ATHLETE
JOIN PARTICIPATION ON ATHLETE.AthleteID = PARTICIPATION.AthleteID
JOIN LOCATION ON PARTICIPATION.LocationID = LOCATION.LocationID
JOIN TEAM ON PARTICIPATION.TeamID = TEAM.TeamID
WHERE PARTICIPATION.Medal IS NOT NULL
GROUP BY ATHLETE.LastName, ATHLETE.FirstName, TEAM.Team
ORDER BY COUNT(PARTICIPATION.Medal) DESC, ATHLETE.LastName, ATHLETE.FirstName
FETCH FIRST 8 ROWS ONLY;

```

Query 2:

```

SELECT ATHLETE.LastName || ' ' || ATHLETE.FirstName AS FullName, TEAM.Team,
COUNT(PARTICIPATION.Medal) AS TotalMedals, MAX(LOCATION.Year) AS MostRecentGame
FROM ATHLETE JOIN PARTICIPATION
ON ATHLETE.AthleteID = PARTICIPATION.AthleteID
JOIN LOCATION ON PARTICIPATION.LocationID = LOCATION.LocationID
JOIN TEAM ON PARTICIPATION.TeamID = TEAM.TeamID
WHERE PARTICIPATION.Medal IS NOT NULL
GROUP BY ATHLETE.LastName, ATHLETE.FirstName, TEAM.Team
ORDER BY TotalMedals DESC, ATHLETE.LastName, ATHLETE.FirstName
FETCH FIRST 8 ROWS ONLY;

```

The results of our queries are presented as a classic report in addition to a horizontal bar chart in the APEX application (Figures 3 and 4). The top athletes in this dataset are Kjetil Aamodt and Nathan Adrian, each with a total of 8 medals across multiple Olympic Games.

Athlete Details

Full Name	Team	Last Olympic Appearance
Aamodt,Kjetil	Norway	2006
Adrian,Nathan	United States	2016
Alsgaard,Thomas	Norway	2002
Aaltonen,Paavo	Finland	1952
Ablyazin,Denis	Russia	2016
Ainslie,Charles	Great Britain	2012
Akhatova,Albina	Russia	2006
Albarello,Marco	Italy	1998

Figure 3: Top Olympic Performers

Top Athletes

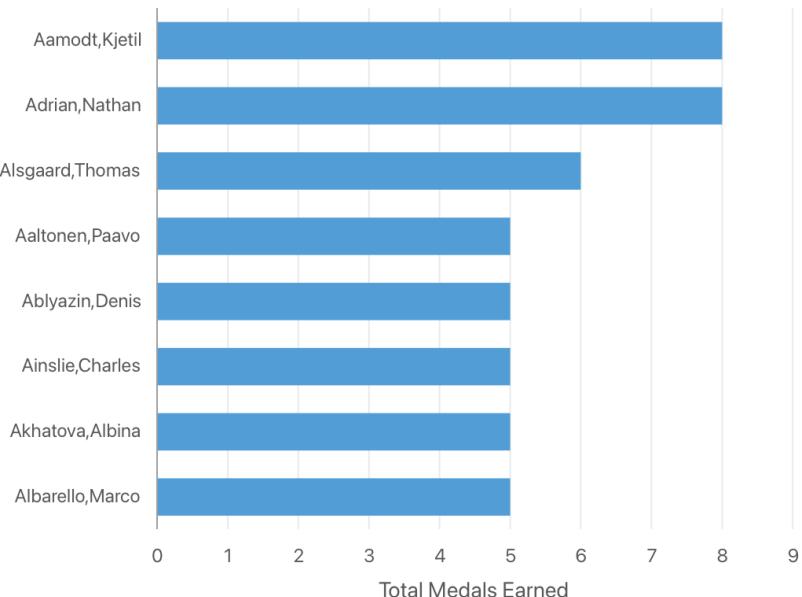


Figure 4: Top Olympic Performers Bar chart

Question 2: What percentage of all Olympic medals have been won by athletes from the United States?

Answer: The charts below break down the overall medal distribution by country and medal type based on the sampled data. The pie chart highlights the five countries with the highest total medal counts, showing that the United States leads with 28% of all medals in this dataset. The accompanying stacked bar chart displays the proportion of gold, silver, and bronze medals won by each of these top-performing nations. While the U.S. has the greatest overall share, its medal distribution also skews more heavily toward gold medals compared to other countries. Together, these visuals provide insight into not only which countries dominate the medal tables but also how their medal counts are composed.

To answer this question, we composed a series of aggregation queries to calculate the total number of medals earned by each country, along with the specific proportion of gold, silver, and bronze medals. We then identified the top 5 countries based on total medal count and visualized their performance using both a pie chart and a stacked bar chart.

Query 1:

```
SELECT TEAM.Team, COUNT(PARTICIPATION.Medal) AS MedalCount,  
ROUND(COUNT(PARTICIPATION.Medal) * 100/(SELECT COUNT(PARTICIPATION.Medal) FROM  
PARTICIPATION),2) || '%' AS Percentage_Of_All_Medals FROM PARTICIPATION JOIN TEAM ON  
PARTICIPATION.TeamID = TEAM.TeamID GROUP BY TEAM.Team ORDER BY MedalCount DESC FETCH FIRST 5  
ROWS ONLY;
```

This query was followed by additional groupings by MEDAL TYPE for each top team to produce the stacked bar chart comparison. The results, shown in the APEX application (Figures 5 and 6), indicate that the United States accounts for 28% of all medals in the sampled dataset. The stacked bar chart also shows that the U.S. not only leads in total medals but earns a disproportionately high number of gold medals compared to peer nations. Other high-performing teams in this dataset include Germany, Russia, and Canada.

Query 2:

```
SELECT  
TEAM.Team AS COUNTRY, COUNT(*) AS COUNT  
FROM PARTICIPATION  
JOIN TEAM ON PARTICIPATION.TeamID = TEAM.TeamID  
WHERE PARTICIPATION.Medal = 'Gold' AND TEAM.Team IN (  
    SELECT TEAM.Team  
    FROM PARTICIPATION  
    JOIN TEAM ON PARTICIPATION.TeamID = TEAM.TeamID  
    WHERE PARTICIPATION.Medal IS NOT NULL  
    GROUP BY TEAM.Team  
    ORDER BY COUNT(*) DESC  
    FETCH FIRST 5 ROWS ONLY)  
GROUP BY TEAM.Team
```

This second query constructed the stacked bar chart. However, it is important to note that this query was replicated two more times, except ‘Gold’ is replaced by ‘Silver’ and ‘Bronze’ in the other queries to add each stacked component to the chart.

Together, these charts provide a clearer picture of how national Olympic teams have performed over time—both in quantity and quality of medals. Although the dataset is a random sample and may not reflect the true global distribution, the trends are consistent with historical Olympic dominance by the U.S. and other major supporting nations.

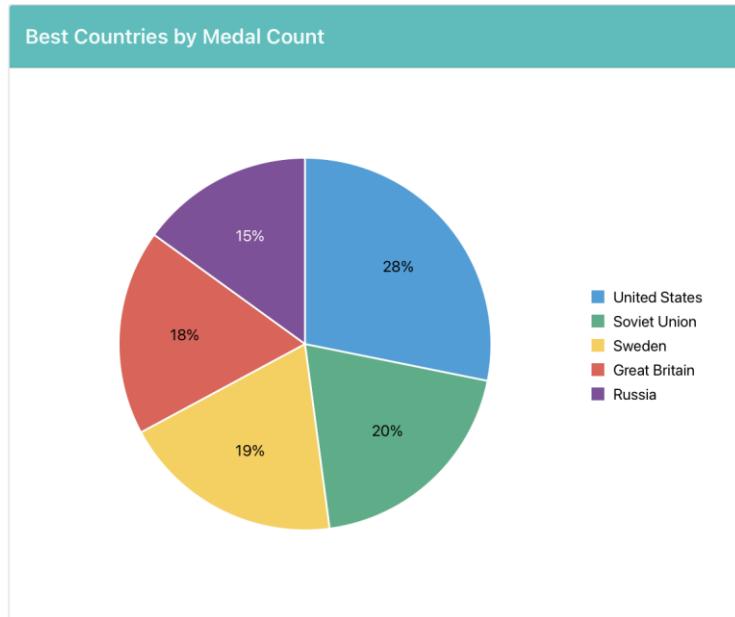


Figure 5: Best Countries by Medal Count Pie Chart

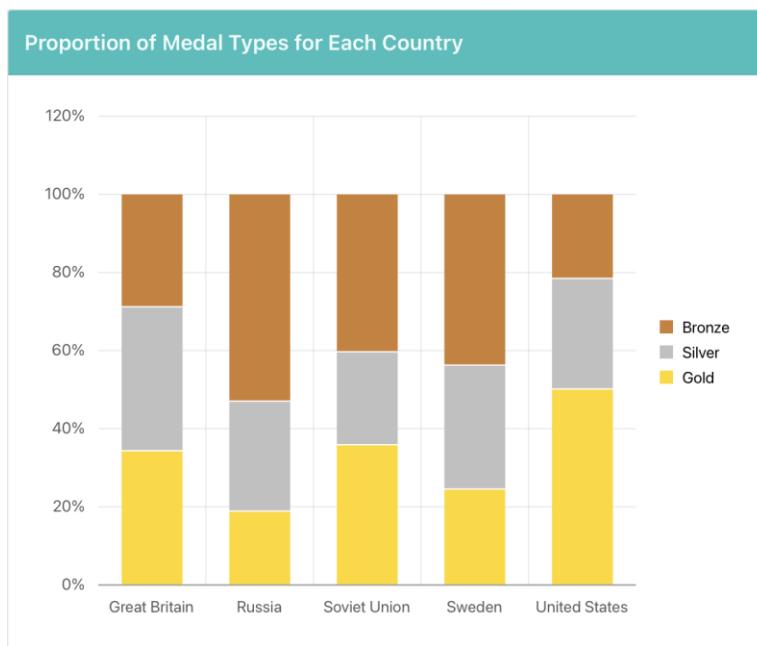


Figure 6: Medal Type by Country Stacked Bar Chart

Question 3: What is the distribution of Olympic medals by sport and athlete gender?

Answer: The visualizations explore how Olympic medals are distributed between male and female athletes across various sports. The pie chart highlights the overall gender split in medal wins, while the table provides a detailed breakdown of medal counts—gold, silver, and bronze—earned by gender within each sport. From the pie chart, it appears that males have more medals than females. However, the table reveals the specific medal categories within each sport. This analysis reveals which sports have more balanced participation and success across genders and which ones are more gender-skewed in medal distribution. Together, these insights offer a comprehensive look at gender performance in Olympic competitions.

To answer this question, we composed two queries: one that aggregates total medal counts by gender, and the other that provides a sport-by-sport breakdown of medal types for male and female athletes. Both queries filter out athletes that did not win a medal.

Query 1:

```
SELECT ATHLETE.Sex,COUNT(PARTICIPATION.Medal) AS Total Medals  
FROM ATHLETE JOIN PARTICIPATION  
ON ATHLETE.AthleteID = PARTICIPATION.AthleteID  
GROUP BY ATHLETE.Sex;
```

Query 2:

```
SELECT  
    EVENT.Sport, ATHLETE.Sex AS Gender,  
    COUNT(CASE WHEN PARTICIPATION.Medal = 'Gold' THEN 1 END) AS Gold_Count,  
    COUNT(CASE WHEN PARTICIPATION.Medal = 'Silver' THEN 1 END) AS Silver_Count,  
    COUNT(CASE WHEN PARTICIPATION.Medal = 'Bronze' THEN 1 END) AS Bronze_Count,  
    COUNT(PARTICIPATION.Medal) AS Total_Medals  
FROM PARTICIPATION  
JOIN ATHLETE ON PARTICIPATION.AthleteID = ATHLETE.AthleteID  
JOIN EVENT ON PARTICIPATION.EventID = EVENT.EventID  
WHERE PARTICIPATION.Medal IS NOT NULL  
GROUP BY EVENT.Sport, ATHLETE.Sex  
ORDER BY EVENT.Sport, ATHLETE.Sex;
```

The results are presented as a pie chart and a classic report in the APEX web application (Figures 7 and 8). The pie chart shows that male athletes account for a larger share of total medals within the dataset. However, the detailed report reveals how this varies significantly across sports.

For instance, sports like gymnastics and swimming show a more balanced distribution of medal wins between genders, while others like boxing and wrestling are more heavily skewed toward male competitors. These insights help identify which sports offer more competitive opportunities which may reflect historical or structural disparities in gender representation.

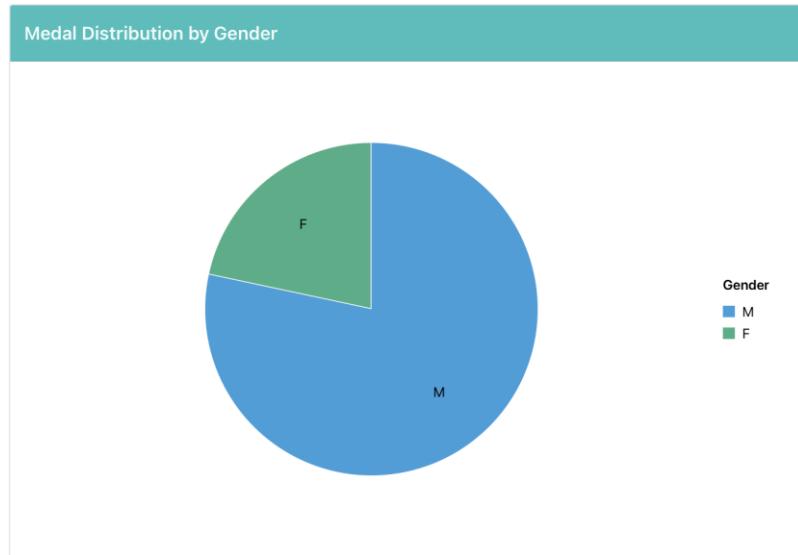


Figure 7: Medal Breakdown by Gender Pie Chart

Sport	Gender	Gold Count	Silver Count	Bronze Count	Total Medals
Alpine Skiing	M	4	2	4	10
Archery	M	2	1	0	3
Athletics	F	4	7	2	13
Athletics	M	14	10	19	43
Badminton	M	1	0	0	1
Baseball	M	4	1	2	7
Basketball	F	0	2	4	6
Basketball	M	3	4	6	13
Beach Volleyball	M	1	1	1	3
Biathlon	F	1	1	3	5
Biathlon	M	1	1	0	2
Bobsleigh	M	3	4	2	9
Boxing	F	2	0	0	2
Boxing	M	3	4	14	21
Canoeing	M	4	3	4	11
Cross Country Skiing	F	0	0	2	2

Figure 8: APEX classic report

Question 4: What is the overall age distribution of Olympic athletes in this dataset?

Answer: The summary table below presents key descriptive statistics—minimum, median, mean, and maximum—to offer a concise overview of athlete ages. These metrics help contextualize the age range and central tendency of athletes participating in the Olympic Games. By displaying these values side-by-side, users can quickly assess whether the athlete age distribution skews younger, older, or is broadly balanced. This snapshot provides essential background for deeper age-related analyses across other pages of this dashboard.

To address this question, we composed two descriptive queries. The first calculates key summary statistics—minimum, median, mean, maximum—for the ages of athletes at the time they competed in their respective Olympic events. The second query groups athletes by sport and calculates the average age within each.

Query 1:

```
SELECT  
    MIN(Age) AS MinAge,  
    MEDIAN(Age) AS MedianAge,  
    ROUND(AVG(Age), 1) AS MeanAge,  
    MAX(Age) AS MaxAge  
FROM PARTICIPATION  
WHERE Age IS NOT NULL;
```

Query 2:

```
SELECT Sport, AvgAge  
FROM (SELECT  
        EVENT.Sport, ROUND(AVG(PARTICIPATION.Age), 1) AS AvgAge  
      FROM PARTICIPATION  
      JOIN EVENT ON PARTICIPATION.EventID = EVENT.EventID  
      WHERE PARTICIPATION.Age IS NOT NULL  
      GROUP BY EVENT.Sport) SportAverages  
ORDER BY AvgAge ASC;
```

The results of these queries are shown in our APEX application (Figures 9 & 10). The summary table reveals that the youngest athlete in the dataset was 13 years old, the oldest athlete was 71, and the mean and median ages were 25.2 and 24, respectively. These values suggest a relatively young athlete population, but with a long tail of older participants.

The table breaks down average age by sport, offering insight into which events skew younger or older. Sports like snowboarding, gymnastics, and swimming tend to attract younger competitors, while disciplines such as gold, shooting, and equestrianism allow for older athletes to successfully compete. This variation reflects the unique physical and technical demands of each sport and provides additional context for deeper analysis of age trends in the Olympics.

Min	Median	Mean	Max
13	24	25.2	71

Figure 9: Key summary statistics

Sport	Average Age
Snowboarding	18
Rhythmic Gymnastics	19.1
Rugby	20
Trampolining	20.3
Figure Skating	20.3
Synchronized Swimming	20.6
Swimming	20.7
Gymnastics	21.9
Diving	22.5
Taekwondo	22.6

Figure 10: Average Age by Sport Table

Question 5: What proportion of countries have participated in the Olympics but have never earned a medal?

Answer: The visualizations below highlight the medal participation status of all countries represented in the dataset. The pie chart displays the proportion of countries that have earned at least one Olympic medal versus those that have never won any. This side-by-side comparison emphasizes that a significant number of countries have participated in the Olympic Games without achieving podium finishes. The accompanying table lists each country without a medal, offering detailed insight into which nations have yet to record a medal win. These views provide a clearer understanding of global Olympic representation and the disparity in medal acquisition across nations.

To explore this question, we composed two queries. The first determines which countries have earned at least one Olympic medal, and the second identifies those that have not. Together, these queries provide a clearer picture of global participation and highlight the disparities in medal success across nations.

Query 1:

```
SELECT Label, COUNT(*) AS CountryCount
FROM (
    SELECT DISTINCT TEAM.Team, 'Countries With No Medals' AS Label
    FROM PARTICIPATION
    JOIN TEAM ON PARTICIPATION.TeamID = TEAM.TeamID
    MINUS
    SELECT DISTINCT TEAM.Team, 'Countries With Medals' AS Label
    FROM PARTICIPATION
    JOIN TEAM ON PARTICIPATION.TeamID = TEAM.TeamID
    WHERE PARTICIPATION.Medal IS NOT NULL
    UNION ALL
    SELECT DISTINCT TEAM.Team, 'Countries With Medals' AS Label
    FROM PARTICIPATION
    JOIN TEAM ON PARTICIPATION.TeamID = TEAM.TeamID
    WHERE PARTICIPATION.Medal IS NOT NULL)
GROUP BY Label;
```

Query 2:

```
SELECT DISTINCT TEAM.Team  
FROM PARTICIPATION  
JOIN TEAM ON PARTICIPATION.TeamID = TEAM.TeamID  
MINUS  
SELECT DISTINCT TEAM.Team  
FROM PARTICIPATION  
JOIN TEAM ON PARTICIPATION.TeamID = TEAM.TeamID  
WHERE PARTICIPATION.Medal IS NOT NULL;
```

The results are displayed in our APEX application as a pie chart and classic report (Figures 11 and 12). The pie chart shows the proportion of participating countries that have earned medals versus those that have not won any. A surprising number of nations fall into the second category—illustrating the competitive imbalance at the Olympics.

The additional table lists each country without a medal in this specific dataset. These nations span multiple continents and Olympic cycles, reflecting a variety of political, economic, and sporting factors. This analysis provides an important perspective on global Olympic representation, underscoring the gap between mere participation and podium success.

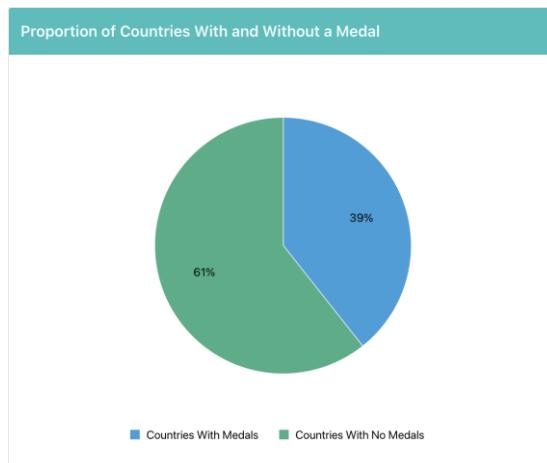


Figure 11: Medal Winners vs. Losers Pie Chart

Countries With No Medals ↑
Afghanistan
American Samoa
Angola
Argentine II
Australasia
Bahamas
Bahrain
Bangladesh
Barbados
Belize
Benin
Bermuda
Blue Red
Bosnia and Herzegovina
British Virgin Islands
Brunei
Cayman Islands
Central African Republic
Chad

Figure 12: Countries Without Medals Table

Web Application Design

Using an APEX web application will allow users to interact with the database to further understand the details and intricacies of the data set. The application allows for the user to view and interact with reports for each table, filter the data to present specific elements like athlete, event, and medal data, and explore and engage with visual representations of the data set like medal counts by country, athlete participation by gender and age, and sport-specific trends.

Home Page

- Includes a project description and link to the data source
- Displays a visually engaging homepage with a consistent layout
- Features a custom navigation bar to access each report and visualization

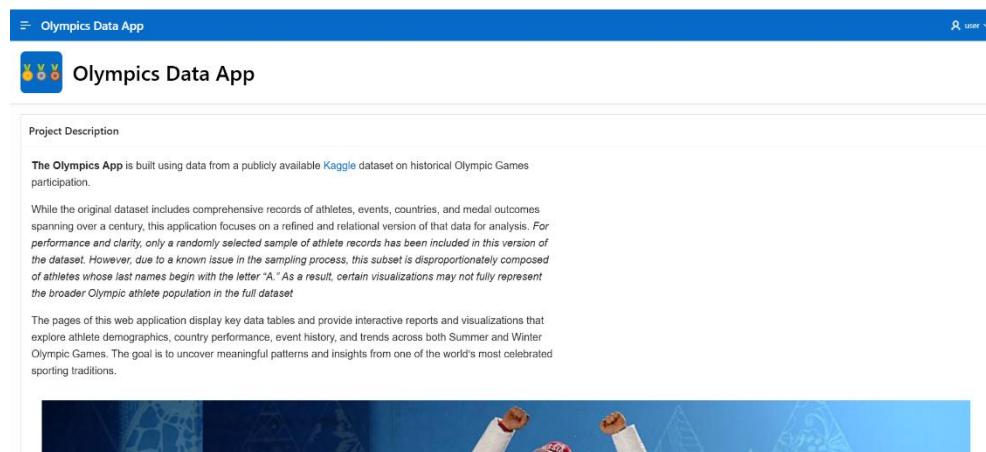


Figure 13: Home Page

Interactive reports

Each of the five tables in our schema—Athlete, Team, Event, Location, and Participation—has an associated interactive report. These allow users to search and filter data, group and sort columns, and view detailed record-level data.

A screenshot of a web-based application titled "Olympics Data App". The main content area displays a table titled "ATHLETE" with the following data:

About This Page

This page presents a list of Olympic athletes included in our dataset. Each record displays:

Athlete ID – a unique identifier assigned to each athlete,

First Name – the athlete's given name,

Last Name – the athlete's family or surname,

Middle Name – any additional given names,

Sex – the athlete's sex,

Weight (kg) – body weight measured in kilograms, and

Height (cm) – height measured in centimeters.

Note: The data shown comes from a **random sample** and does not represent every Olympian. It is intended to provide a representative overview for analysis and exploration.

Athlete ID	First Name	Last Name	Middle Name	Sex	Weight (kg)	Height (cm)
798	Pirouz	Adamiyat		M	80	190
799	Nafissatou	Adamou	Moussa	F	72	172
800	Georgi	Adamov	Mirchev	M	64	173
801	Tatyana	Adamovich	Pavlovska	F	54	163
802	Tadeusz	Adamowski	Ralf	M	70	177

Figure 14: ATHLETE

A screenshot of the "Olympics Data App" showing the "TEAM" interactive report. The interface includes a search bar, a "Go" button, and an "Actions" dropdown menu. The table displays the following data:

About This Page

This page displays a list of Olympic teams included in the dataset. Each record includes:

Team ID – the unique identifier for each team or delegation,

National Olympic Committee (NOC) – the official three-letter code representing each country's Olympic committee, and

Country – the full name of the nation the team represents.

Note: The data shown is based on a **random sample** of Olympic records and does not include every team or delegation. It is designed to support exploration and analysis of Olympic team data by country and organizational affiliation.

Team ID	NOC	Country
T001	CHN	China
T002	DEN	Denmark
T003	NED	Netherlands
T004	USA	United States
T005	FIN	Finland
T006	NOR	Norway
T007	DNK	Denmark

Figure 15: TEAM

Olympics Data App user

>About This Page

This page provides details about Olympic Games locations included in the dataset. Each record includes:

Location ID – the unique identifier assigned to each Olympic Game instance,

Year – the year in which the Olympic Games took place,

Season – whether the Games were part of the Summer or Winter Olympics, and

City – the host city where the Games occurred.

Note: This data comes from a **random sample** and may not include every Olympic host city. It serves as a foundation for analyzing the timing and geographical distribution of Olympic Games over time.

Location ID	Year	Season	City
L001	1992	Summer	Barcelona
L002	2012	Summer	London
L003	1920	Summer	Antwerpen
L004	1900	Summer	Paris
L005	1988	Winter	Calgary
L006	1992	Winter	Albertville
L007	1994	Winter	Lillehammer

Figure 16: LOCATION

Olympics Data App user

about This Page

This page displays detailed information about the Olympic events featured in the dataset. Each record includes:

Event ID – the unique identifier for each event,

Sport – the broader sport category (e.g., Athletics, Swimming), and

Event Name – the specific name of the event within the sport (e.g., Swimming Men's 100m Freestyle).

Note: The data represents a **random sample** of Olympic participation records and does not reflect every event in Olympic history.

Event ID	Sport	Event Name
E394	Cross Country Skiing	Cross Country Skiing Women's 30 kilometres
E395	Cross Country Skiing	Cross Country Skiing Women's 15 km Skiatlon
E396	Rowing	Rowing Men's 17-Man Naval Rowing Boats
E397	Beach Volleyball	Beach Volleyball Women's Beach Volleyball
E398	Weightlifting	Weightlifting Men's Super-Heavyweight
E399	Rowing	Rowing Men's Lightweight Coxless Fours
E400	Wrestling	Wrestling Men's Light-Flyweight, Greco-Roman
E401	Canoeing	Canoeing Men's Canadian Singles, 1,000 metres

Figure 17: EVENT

About This Page

This page displays athlete participation records for various Olympic events through combining the various unique identifiers. Each row represents a single instance of an athlete competing in an Olympic event and includes the following:

Athlete ID – links to the specific athlete who competed,
Location ID – the Olympic Game (year and city) in which the participation occurred,
Event ID – the specific sporting event,
Team ID – the country or team the athlete represented,
Age – the age of the athlete at the time of competition, and
Medal – the medal won (if any): Gold, Silver, Bronze, or null if no medal was awarded.

● Note: This data comes from a **random sample** and is meant to highlight patterns in athlete performance across events, years, and countries.

Q ▾		Go	Actions ▾			
Athlete ID	Location ID	Event ID	Team ID	Age	Medal	
457	L021	E164	T024	23		
458	L013	E003	T090	20		
459	L002	E246	T031	17		
460	L028	E015	T028	22		

Figure 18: PARTICIPATION

Visualizations for Queries

- Pie Charts for gender and medal participation
- Stacked bar charts for medal breakdowns
- Classic reports for athlete lists and age data
- Dashboards combining text explanations and chart outputs
- Screenshots of these pages can be found below

Top Athletes by Total Medals

Question: Who are the top most decorated athletes in this Olympic dataset?

Answer: The chart and table below show the athletes with the highest number of medals won across all Olympic Games, based on the sampled data. Each athlete is listed with their first and last name, country, total medal count, and the year of their most recent Olympic appearance.

Notably, **Kjetil Aamodt** and **Nathan Adrian** appear at the top of this dataset, each with **8 total medals**. While this provides a snapshot of outstanding Olympic performers, the results should be interpreted with caution.

Data Disclaimer: This dataset was randomly sampled to support performance and SQL demonstration purposes. However, the sample is disproportionately composed of athletes whose last names mainly begin with the letter "A." As a result, the insights presented may not fully represent the broader Olympic athlete population.

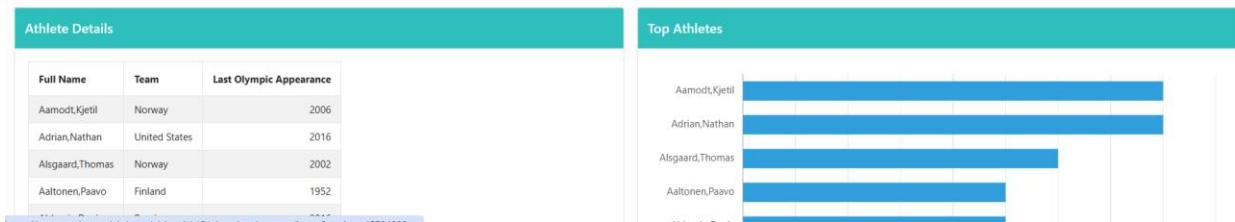


Figure 19: Q1

Best Teams by Medal Share

Question: What percentage of all Olympic medals have been won by athletes from the United States?

Answer: The charts below break down the overall medal distribution by country and medal type based on the sampled data. The pie chart highlights the five countries with the highest total medal counts, showing that the United States leads with **28%** of all medals in this dataset. The accompanying stacked bar chart displays the proportion of **gold**, **silver**, and **bronze** medals won by each of these top-performing nations. While the U.S. has the greatest overall share, its medal distribution also skews more heavily toward gold medals compared to other countries. Together, these visuals provide insight into not only which countries dominate the medal tables but also how their medal counts are composed.

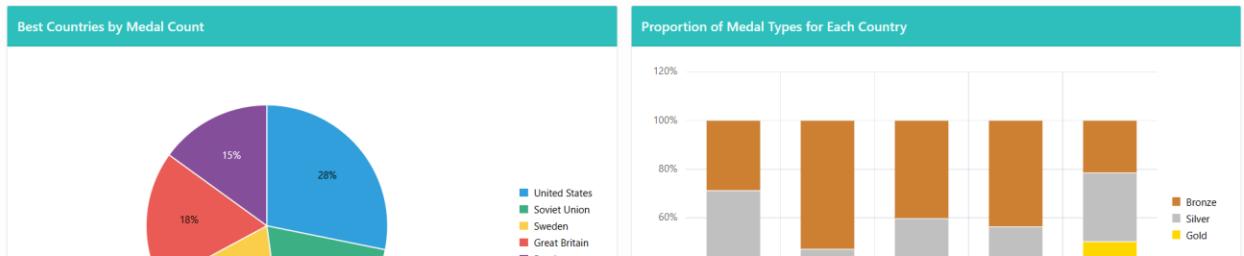
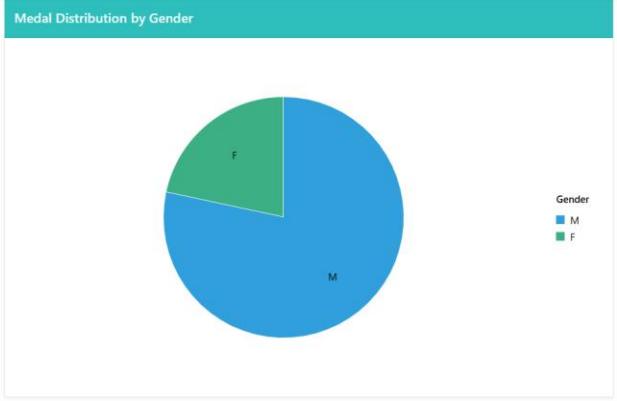


Figure 20: Q2

Performance by Gender

Question: What is the distribution of Olympic medals by sport and athlete gender?

Answer: The visualizations explore how Olympic medals are distributed between male and female athletes across various sports. The pie chart highlights the overall gender split in medal wins, while the table provides a detailed breakdown of medal counts—**gold**, **silver**, and **bronze**—earned by gender within each sport. From the pie chart, it appears that males have more medals than females. However, the table reveals the specific medal categories within each sport. This analysis reveals which sports have more balanced participation and success across genders and which ones are more gender-skewed in medal distribution. Together, these insights offer a comprehensive look at gender performance in Olympic competition.



		Actions ▾			
Sport	Gender	Gold Count	Silver Count	Bronze Count	Total Medals
Alpine Skiing	M	4	2	4	10
Archery	M	2	1	0	3

Figure 21: Q3

Athlete Ages

Question: What is the overall age distribution of Olympic athletes in this dataset?

Answer: The summary table below presents key descriptive statistics—**minimum**, **median**, **mean**, and **maximum**—to offer a concise overview of athlete ages. These metrics help contextualize the age range and central tendency of athletes participating in the Olympic Games. By displaying these values side-by-side, users can quickly assess whether the athlete age distribution skews younger, older, or is broadly balanced. This snapshot provides essential background for deeper age-related analyses across other pages of this dashboard.

Min	Median	Mean	Max
13	24	25.2	71

Sport	Average Age
Snowboarding	18
Rhythmic Gymnastics	19.1
Rugby	20
Trampolining	20.3
Figure Skating	20.3
Synchronized Swimming	20.6
Swimming	20.7
Gymnastics	21.9
Others	22.5

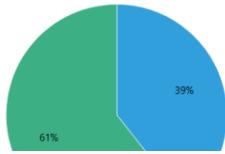
Figure 22: Q4

Olympic Participation

Question: What proportion of countries have participated in the Olympics but have never earned a medal?

Answer: The visualizations below highlight the medal participation status of all countries represented in the dataset. The pie chart displays the proportion of countries that have earned at least one Olympic medal versus those that have never won any. This side-by-side comparison emphasizes that a significant number of countries have participated in the Olympic Games without achieving podium finishes. The accompanying table lists each country without a medal, offering detailed insight into which nations have yet to record a medal win. These views provide a clearer understanding of global Olympic representation and the disparity in medal acquisition across nations.

Proportion of Countries With and Without a Medal



Countries With No Medals ↑

Afghanistan
American Samoa
Angola
Argentina II
Australasia
Bahamas
Bahrain
Bangladesh
Barbados
Belize
Benin
Bermuda
Blue Red
Bosnia and Herzegovina
British Virgin Islands
Brunei
Cayman Islands
Central African Republic

Figure 23: Q5