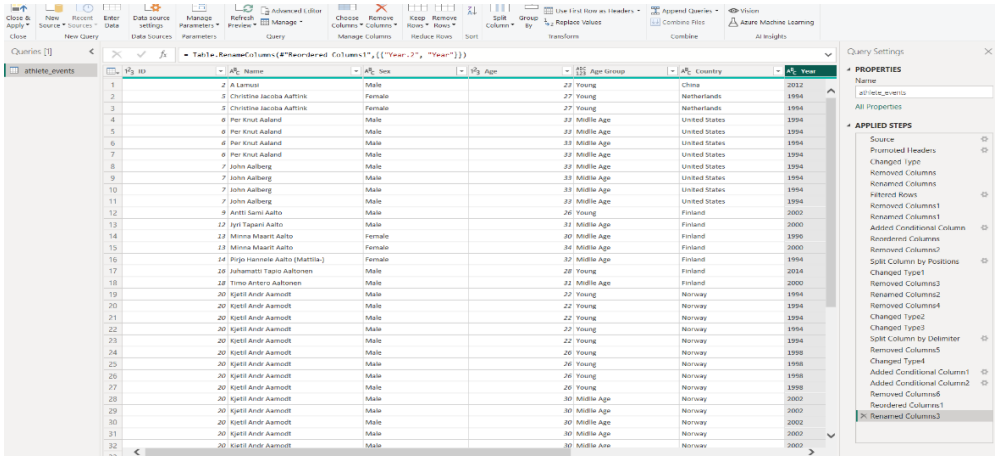
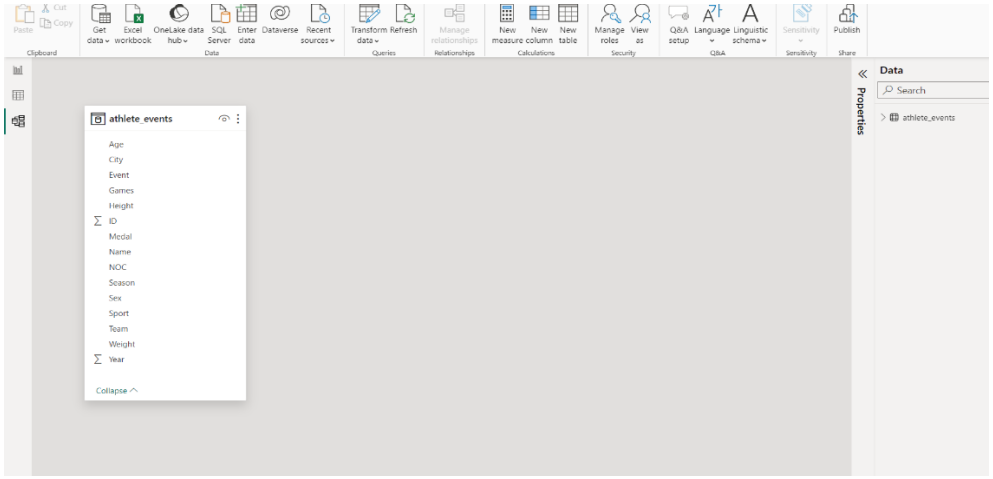
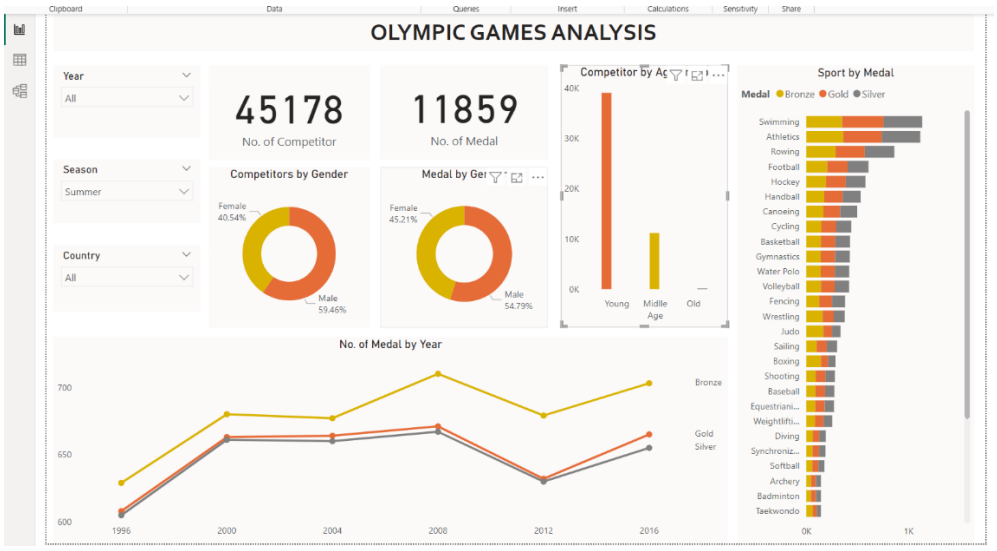
Portfolio Project: Olympic Games Analysis







Objective

The task is to visualise data that will help readers understand how countries have performed historically in the summer and winter Olympic Games. There is an interest in details about the competitors. the main task is still to show historical performance for different countries.

Data Source

kaggle

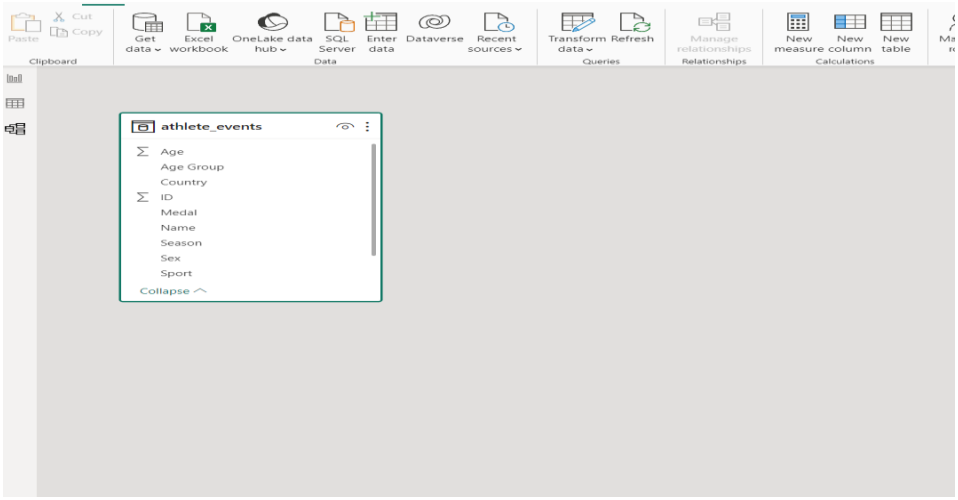
Content

The file athlete_events.csv contains 105804 rows and 15 columns. Each row corresponds to an individual athlete competing in an individual Olympic event (athlete-events).

Data Transformation

I utilized Power Query in Power BI to clean and transform the dataset. The following steps were applied:

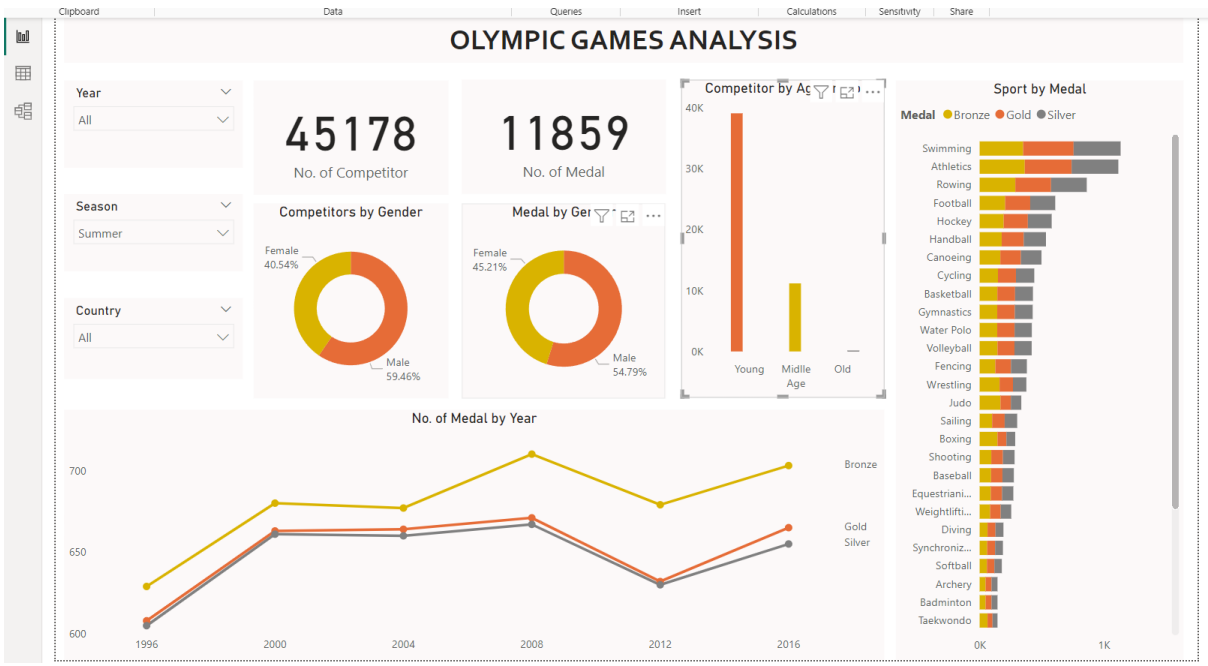
1. **Promoted Headers:** Identified and promoted the first row as headers for better column naming.
2. **Changed Type:** Ensured appropriate data types for each column.
3. **Removed Column:** Eliminated unnecessary columns that did not contribute to the analysis.
4. **Added Conditional Column:** Introduced a conditional column to categorize competitors based on specific criteria.
5. **Reordered Columns:** Arranged columns in a logical order for better visualization.
6. **Split Column by Position:** Extracted relevant information by splitting a column based on position.
7. **Changed Type (Again):** Ensured consistency in data types after splitting.
8. **Split Column by Delimiter:** Extracted valuable information by splitting a column using a specified delimiter.



Visualizations

Utilizing Power BI's visualization capabilities, I created a set of interactive charts and graphs to convey key insights effectively. Users can dynamically explore the data and gain a deeper understanding of historical Olympic performance. The visualizations include:

1. **Competitors by Gender:** A pie chart illustrating the distribution of male and female participants, revealing a split of 40.54% female and 59.46% male.
2. **Medals by Gender:** Another pie chart highlighting the medal distribution by gender, indicating that 45.21% of medals were won by females and 54.79% by males.
3. **Age Group Participation:** A bar chart showcasing the participation levels across different age groups, with a notable concentration among the young, followed by the middle age group and then the older participants.
4. **Number of Medals Over the Years:** A line chart depicting the trend in the number of medals awarded each year, providing a historical perspective on the games' competitiveness.
5. **Sport-wise Medal Distribution:** A bar chart presenting the distribution of medals across various sports, offering insights into the most successful sporting disciplines.



Key Findings

1. Young athletes have shown the highest participation rates, followed by the middle-aged and older competitors.
2. While the gender distribution among competitors is relatively balanced, males tend to secure a slightly higher percentage of participation and medals.
3. Among the games Swimming, Athletics, and Rowing are the top 3 games where competitors win medals most
4. The interactive interface allows users to select and focus on their specific country of interest, providing a personalized experience.

Conclusion

This portfolio project not only effectively addresses the business problem but also goes beyond by unearthing intriguing insights. The combination of meticulous data preparation in Power Query and compelling visualizations in Power BI ensures that readers gain a comprehensive understanding of how countries have historically performed in the Summer and Winter Olympic Games. The interactive nature of the visualizations enhances user engagement and offers a valuable resource for anyone interested in the world of Olympic sports.