Purpose of the Application

This application is designed to manage and query data for the Olympic Archery events (random data sample), covering athletes, coaches, countries, medals, and team structures. The system supports various database operations such as joining multiple tables, filtering data based on certain conditions, and maintaining consistency with integrity constraints.

The purpose of the application is to provide a robust platform for querying and analyzing Olympic archery-related data. It allows users to:

- Retrieve detailed information about athletes and coaches.
- Count and analyze athlete participation by country.
- Track medal distribution across countries.
- Organize teams and athlete data based on various filters.

The application is primarily for administrators, analysts, and researchers who need to access detailed Olympic Archery statistics and insights.

Key Features

Athlete Information Retrieval

The system can retrieve detailed information about athletes, such as their first and last names along with their countries. This can be useful for analyzing athlete demographics and their countries' involvement in archery events.

- **Feature**: Athlete and Country Information

Pending Coaches Workshop Status

This feature allows users to view coaches who have pending workshop statuses. It's useful for tracking the progress of coaches in their training or certification processes.

- **Feature**: Pending Coaches

Country Athlete Count

This feature provides the number of athletes from each country. It is useful for understanding how many athletes a country has participating in the Olympics.

- **Feature**: Athlete Count by Country

Birth Year Retrieval and Sorting

The application can retrieve the birth year of Olympic participants and sort them. This helps identify the age distribution of athletes.

- **Feature**: Athlete Birth Year

Countries with Multiple Athletes

This feature identifies countries that have more than one athlete participating in the Olympics. It’s useful for analyzing the level of participation by country.

- **Feature**: Countries with Multiple Athletes

Medal Winners Retrieval

The system retrieves a list of athletes who have won medals in the Olympic events. This feature helps highlight top-performing athletes.

- **Feature**: Medal Winners

Countries with Significant Medal Counts

This feature allows users to retrieve countries that have won five or more medals. It's useful for assessing countries with a strong Olympic archery presence.

- **Feature**: Countries with More Than 5 Medals

Total Medal Count by Country

This query calculates the total number of medals won by each country, providing a comprehensive medal tally for every participating country.

- **Feature**: Total Medals by Country

Athlete Participation in Specific Events

This feature allows users to identify athletes who participated in a specific event, such as the "Tokyo 2020" games.

- **Feature**: Athlete Participation in Tokyo 2020

Youngest and Oldest Athlete

This feature finds the youngest and oldest athletes based on their birth year, offering insights into the age range of Olympic archers.

- **Feature**: Youngest and Oldest Athletes

Team Athlete View

This feature creates a view that lists all athletes participating in a team, sorted by birth year. It provides insight into team composition.

- **Feature**: Team Athletes by Birth Year
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Event Details on Specific Date

This feature creates a table showing specific event details for a given date (e.g., July 30, 2020). It's useful for tracking event schedules and athlete participation.

- **Feature**: Event Details for Specific Date
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Application Constraints and Issues

- **Handling Deletions**: The system may encounter issues if attempting to delete records from a table that are referenced by other tables (e.g., deleting an OlympicID).

- **Data Integrity**: Constraints can be implemented, such as ensuring a team has between 3 and 6 members. This can be enforced through triggers or additional logic within the database.

Conclusion

This application offers comprehensive functionality for querying and analyzing Olympic Archery data. It supports a wide range of operations, from retrieving basic athlete information to complex queries about medals, team compositions, and event participation. With proper data integrity checks, the application can provide meaningful insights to Olympic analysts, coaches, and enthusiasts.