Presentation

** I created graphs for 1. GDP growth and GDP number, and 2. Population growth and Population size. However, as you can see from the graphs, we cannot find a correlation between GDP growth and Olympic performance, or Population growth and Olympic performance. Therefore, we need to decide whether to mention these graphs or not.

** And the below outline is not perfect, so just use this for your reference!

Introduction

- Topic: What Predicts a Country's Winning Rate in the Olympics?

- Brief description:

  explore the fascinating relationship between a country's Olympic performance, its GDP, and its population size. Our goal is to understand what factors might contribute to Olympic success.

Data Sources and Preparation

- Our analysis is **based on three primary datasets**: Olympic athlete events, global GDP data, and global population data

- **cleaned and transformed** these datasets: ocusing on data points like the country name, year, medals won, and GDP

- **Quantify Olympic performance**: Olympic performance has been quantified both in terms of total medal counts and a weighted scoring system (Gold: 3, Silver: 2, Bronze: 1)

- **Simplify Dataset:** focused on top-performing countries for creating more clear graphs

Country's GDP and Olympic Performance

- **Correlation Between GDP and Olympic Medals**

  - relationship between a country's GDP and its Olympic success

  - aggregated the total number of medals and average GDP by decade for each country

  - [Graph: GDP growth rate or GDP number vs. total number of medals]

  - graph indicates trends over time, outliers, and how GDP growth correlates with Olympic success

Analysis of GDP and Medals Graph

- Countries with higher GDP number often win more medals, suggesting a potential correlation(but moderate level. there is no clear positive regression line)

  - We can't say there is correlation between GDP growth and Olympic performance. we can find the flat line with the graph

Population Size and Olympic Success

- Does Population Size Influence Olympic Success?

  - explore if a larger population correlates with more Olympic medals

- Data Cleaning

  - merged Olympic data with population data and focused on top-performing countries

  [Graph: Population size vs. total number of medals]

  - graph description: Each point represents a country, with the X-axis showing population size and the Y-axis showing total medals

Analysis of Population Size Graph

The graph suggests that larger populations might contribute to more Olympic medals, but it's not a definitive trend

(Some countries with smaller populations also perform exceptionally well)

Combined Analysis(Option)

- Combined Influence of GDP and Population on Olympic Performance

  - combined all factors - GDP, population size, and Olympic medals - into a single analysis

  [Graph: GDP vs. Olympic medals with population size as point size]

Conclusion

The analysis reveals that while GDP and population size may influence Olympic performance, **they are not the sole determinants**(there was no strong correlation between them)

Factors like investment in sports infrastructure, athlete training programs, or national sports policies also could be a important factors.