

Measurable Factors Influencing Country's success in Olympics

Presented by:

Anam Khalid



Introduction

- According to nbc sports, USA, Russia, Germany, Great Britain and France are the top performers in Olympics. We used various methods to find out the measurable factors that contributes to the success of a country in Olympic games!



Top 10 Success Factors

- 1 Dedication and Persistence
- 2 Support of Family and Friends
- 3 Excellent Coaches
- 4 Love of sport
- 5 Excellent Training Programs and Facilities
- 6 Natural Talent
- 7 Competitiveness
- 8 Focus
- 9 Work Ethic
- 10 Financial Support

Top 10 Obstacles

- 1 Lack of Financial Support
- 2 Conflict with Roles in Life
- 3 Lack of Coaching Expertise or Support
- 4 Lack of Support from USOC and NGB
- 5 Mental Obstacles
- 6 Lack of Training/Competition Opportunities
- 7 Medical Problems
- 8 Lack of Social Support
- 9 Physical Limitations
- 10 Failure

Agenda:

- How does population size affect country's success in winning the Olympic Games?
- What is the relationship between GDP and Olympic medals?



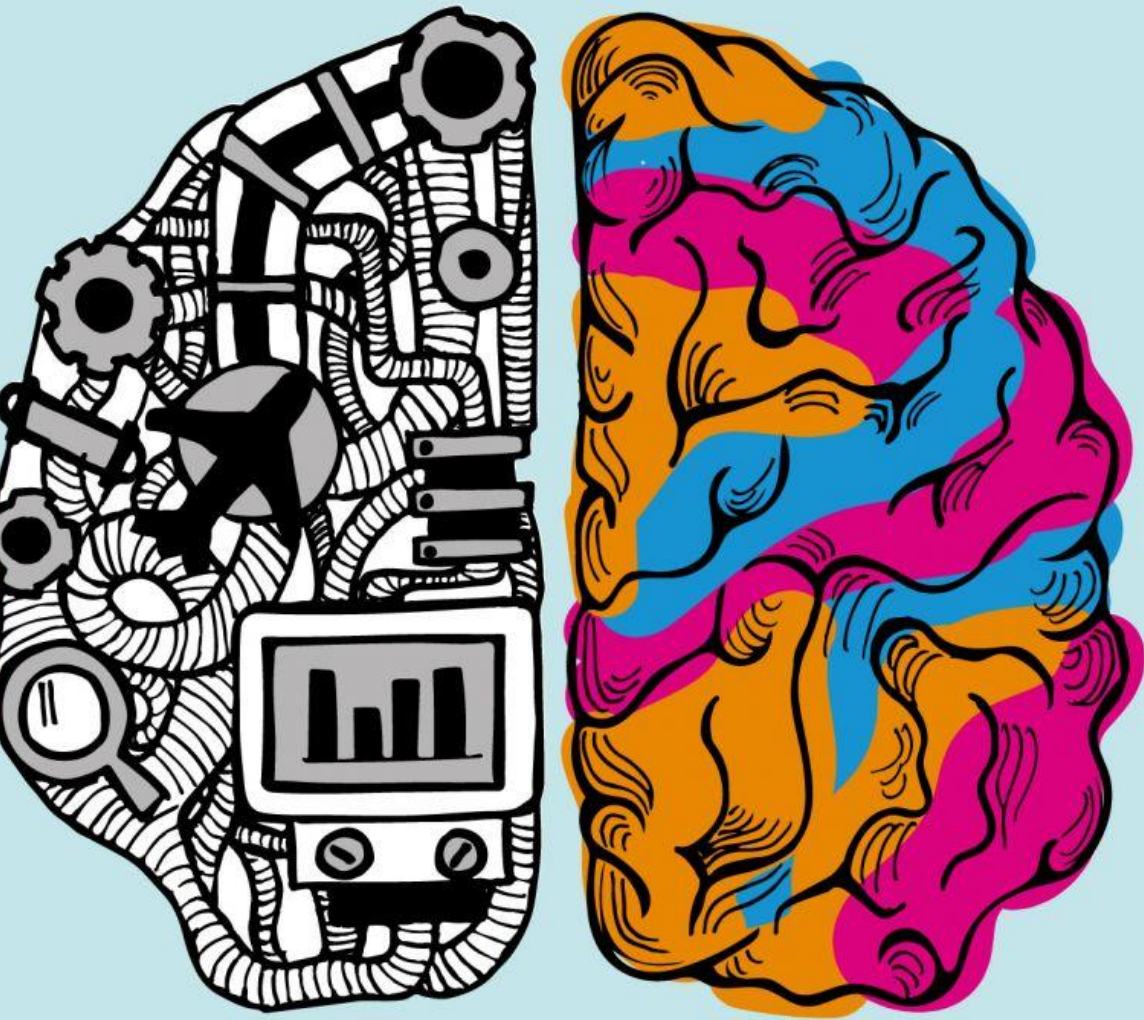
Hypothesis

*I believed that countries with larger **GDP** and **population** would have more success in the Olympic games.*

Process:

- Kaggle and Wikipedia table for data
- ETL Pipeline
- VSCode
- Jupyter Notebook
- Python
- SQL
- PostgreSQL Database
- Flask
- HTML
- CSS

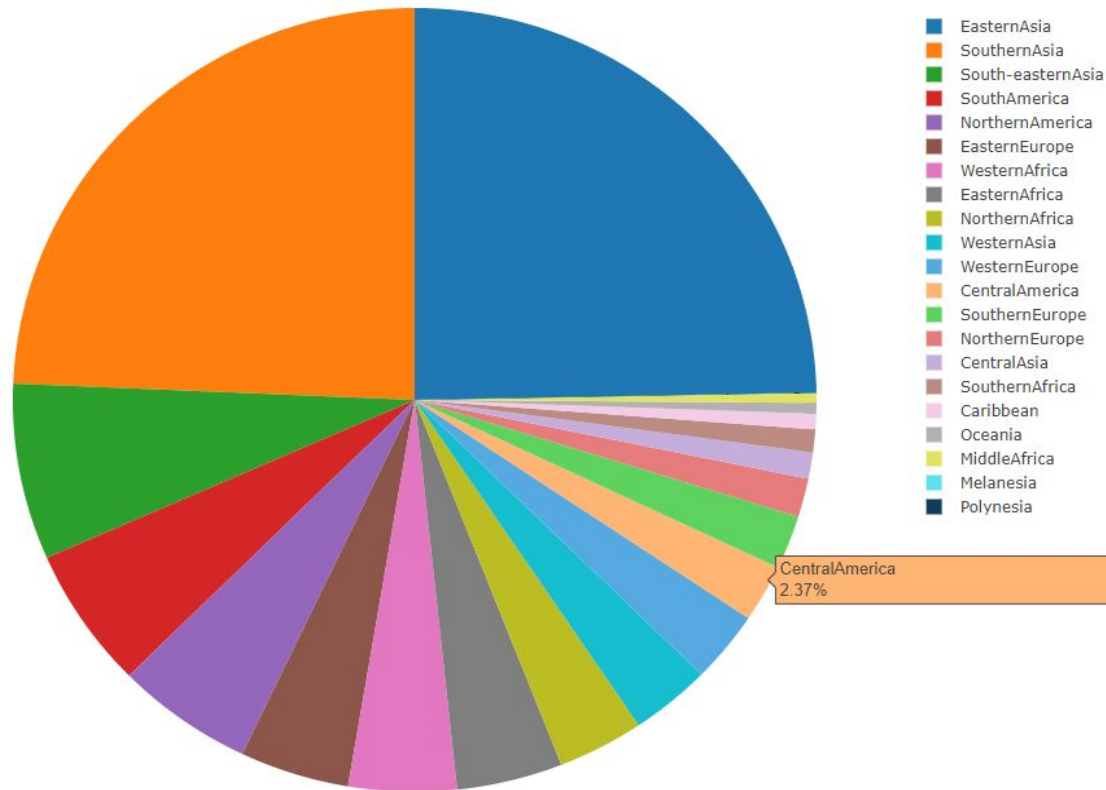




Visualisations

What is the story of the data?

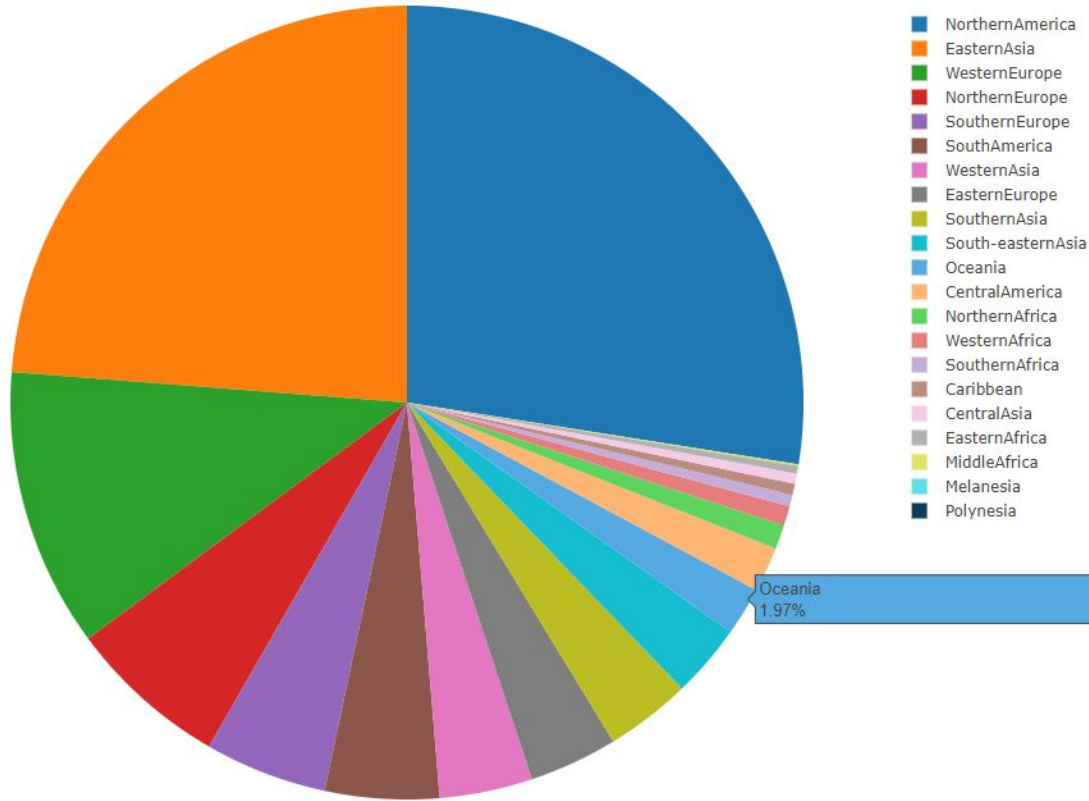
Regions Population Break Down



CentralAmerica
2.37%

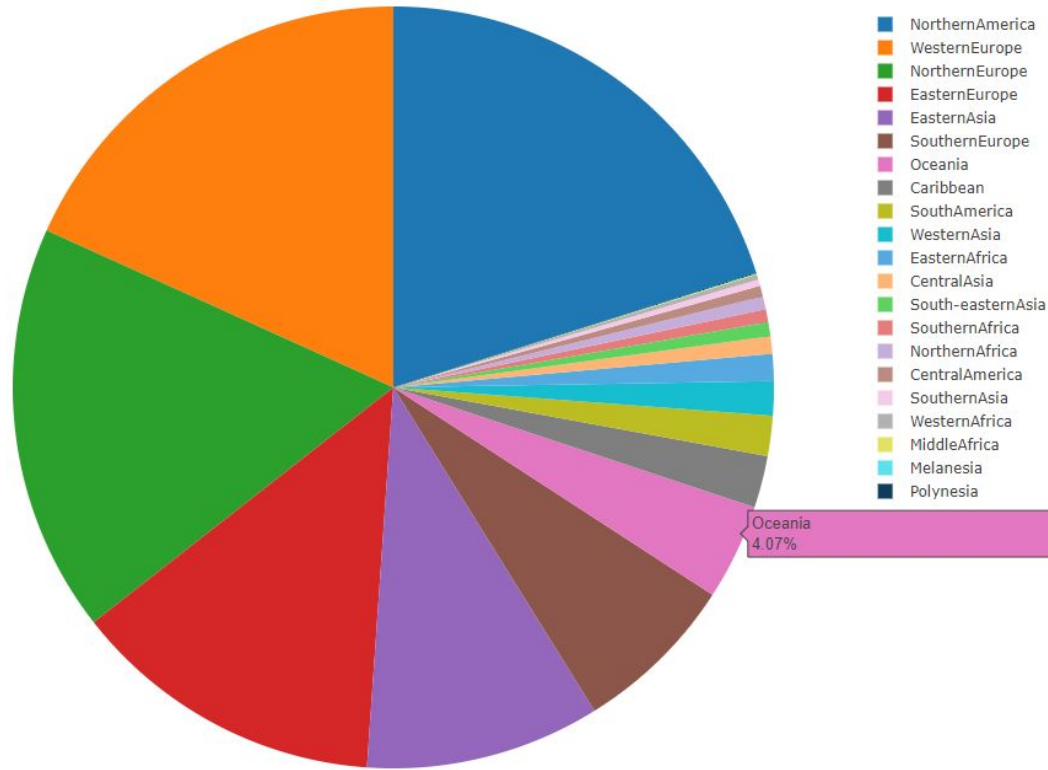
Regional Data - Pie Charts: Population

Regions GDP Break Down

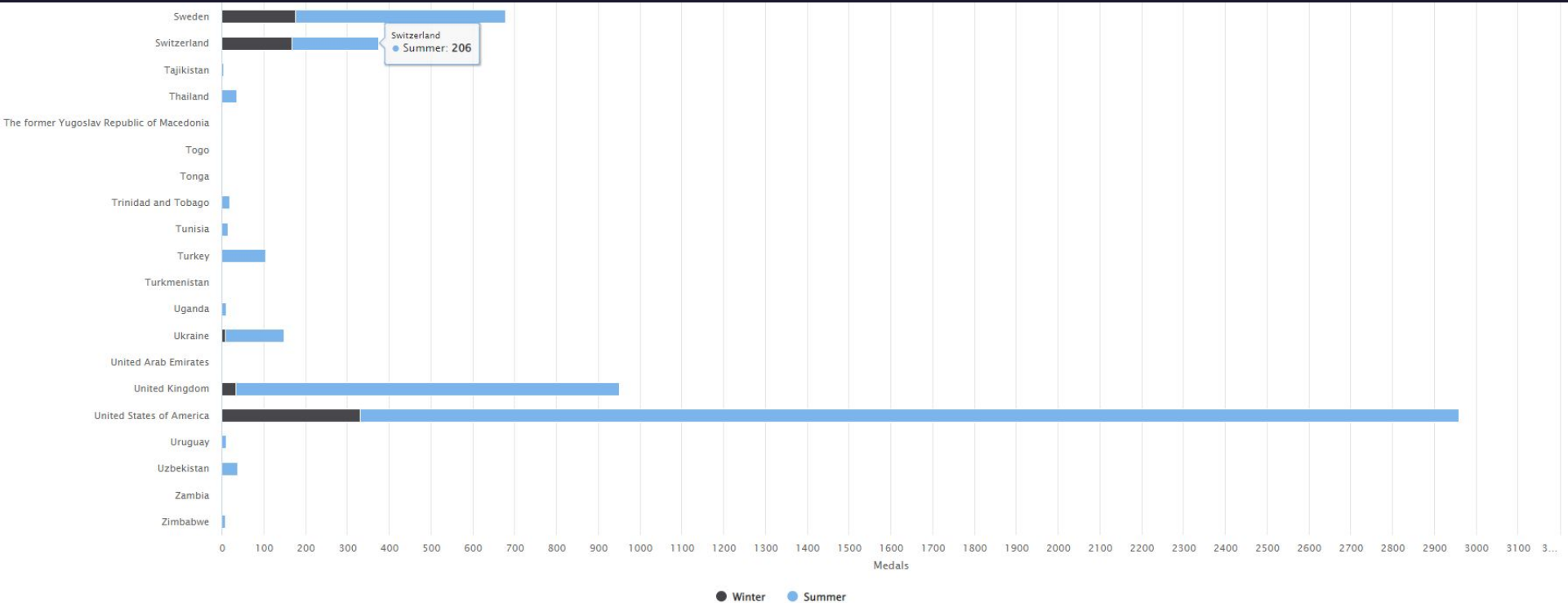


Regional Data - Pie Charts: GDP

Regions Medals Break Down

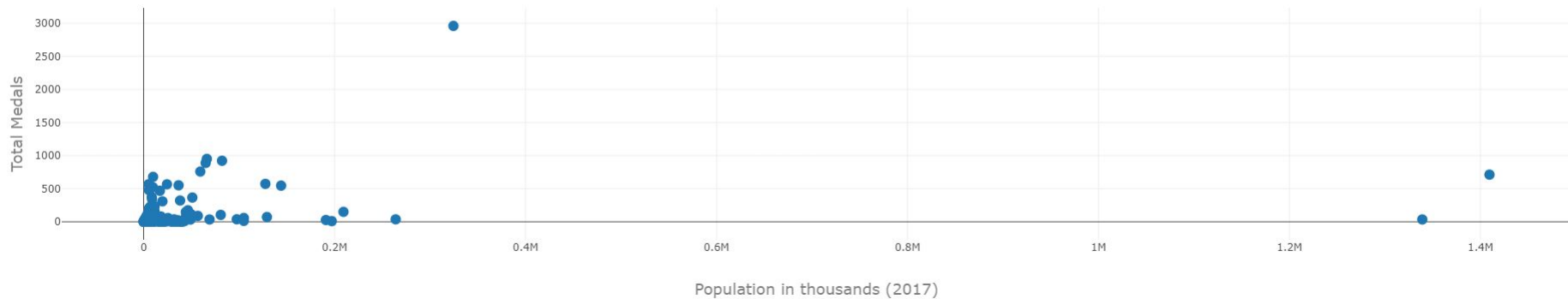


Regional Data - Pie Charts: Medals

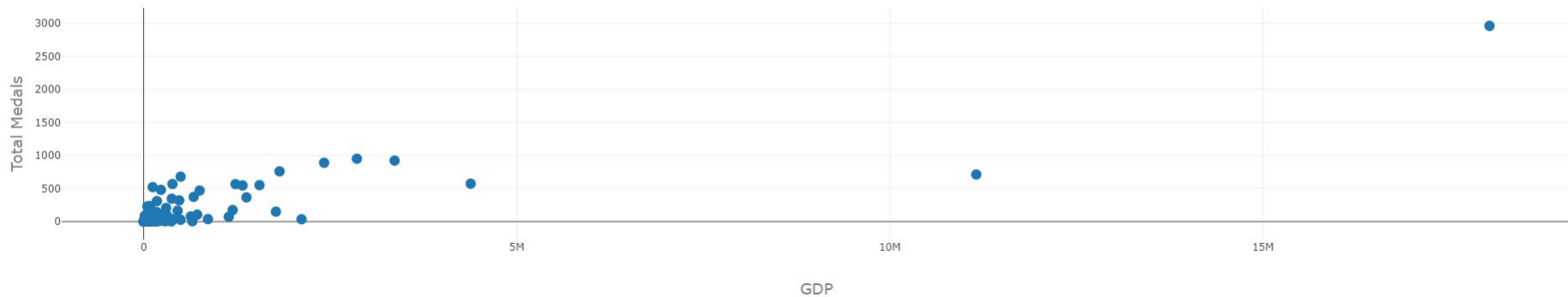


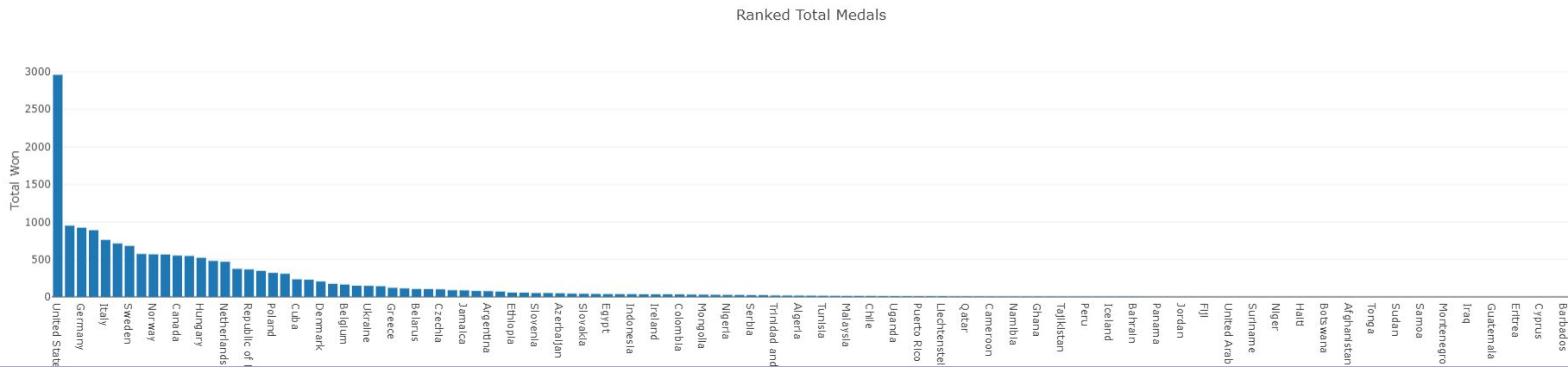
High Chart - Bar Chart: Total Wins

Population and Total Medals



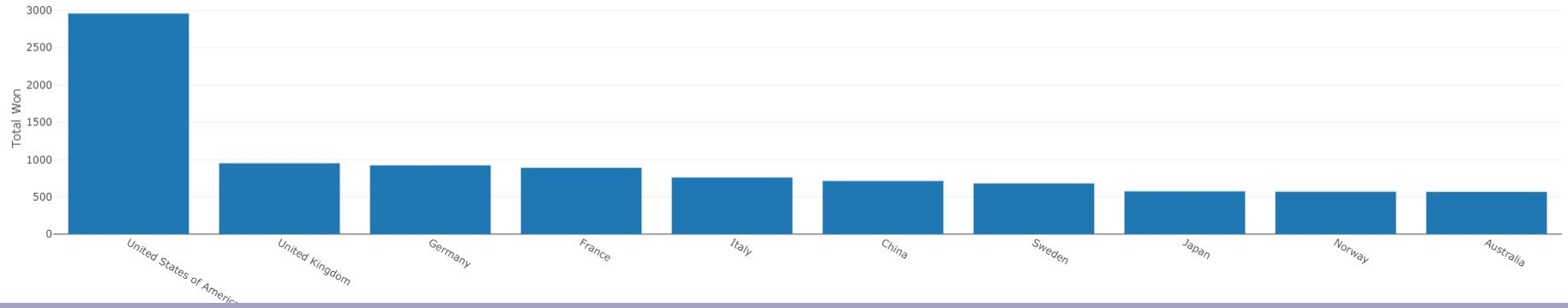
GDP and Total Medals





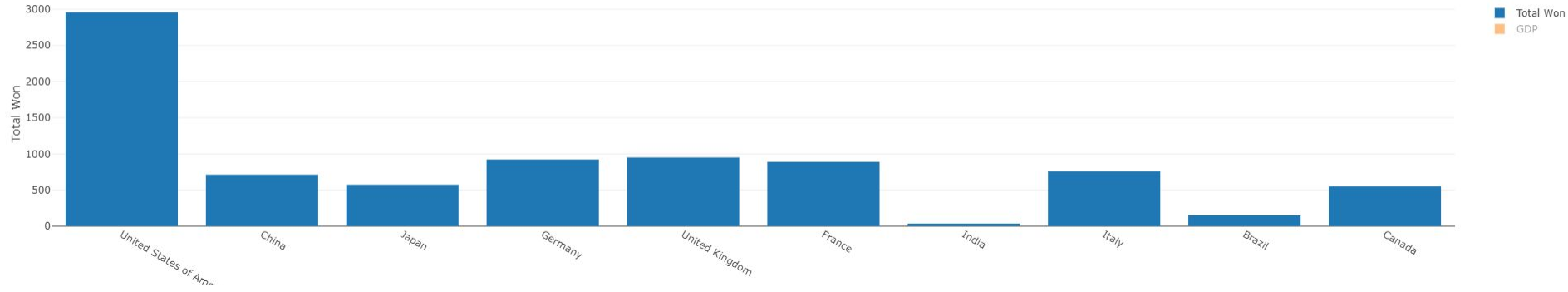
Bar Charts - Ranked

Top 10 Medals

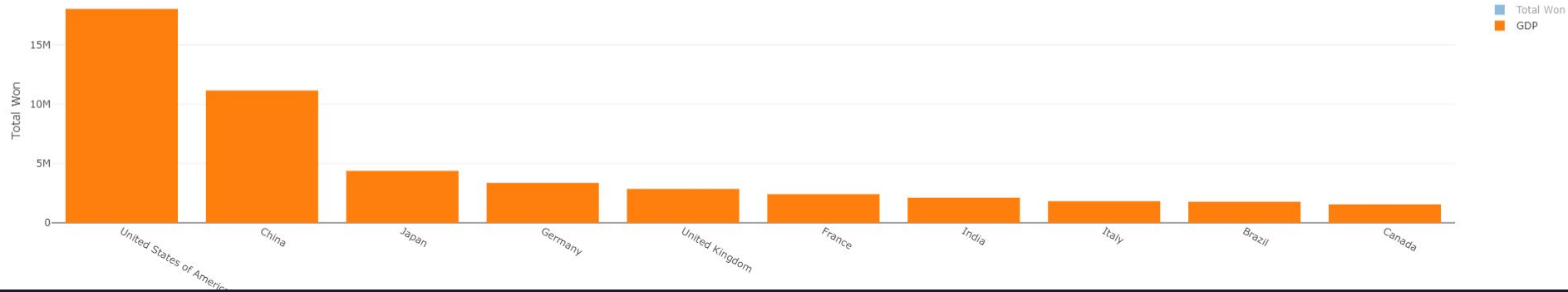


Bar Charts - Top 10

Top 10 GDP Total Won & GDP

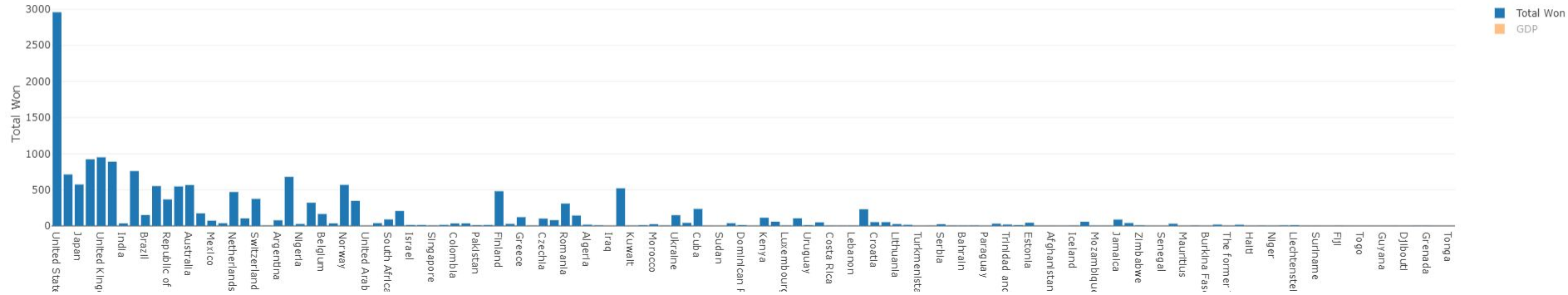


Top 10 GDP Total Won & GDP

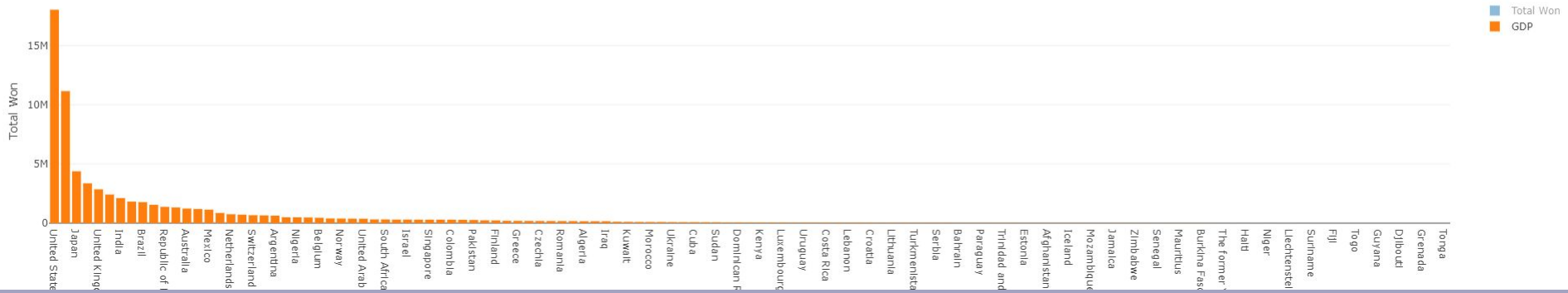


Bar Charts - GDP (2017) Top 10

Ranked GDP Total Won & GDP

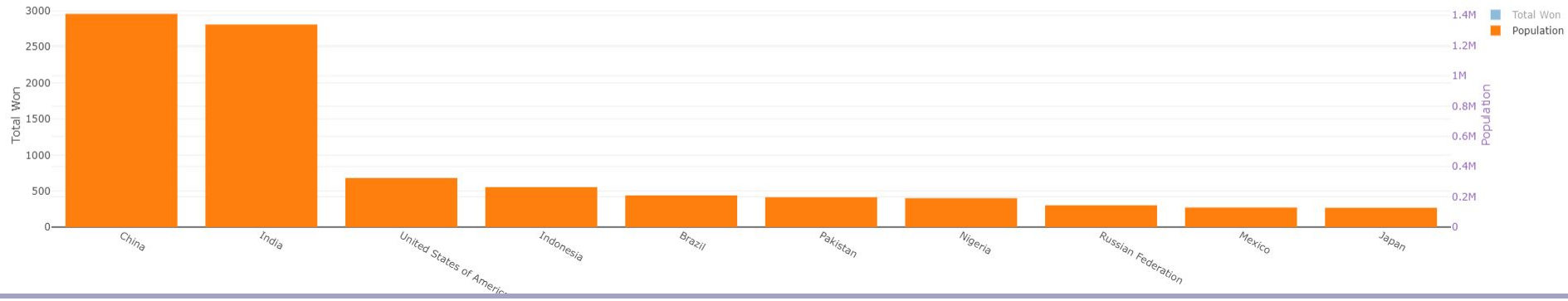


Ranked GDP Total Won & GDP

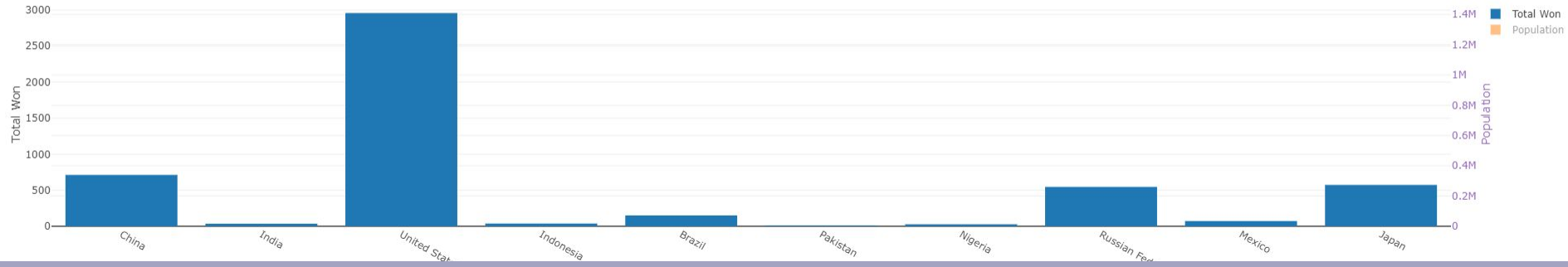


Bar Charts - GDP (2017)

Top 10 Population Total Won & Population

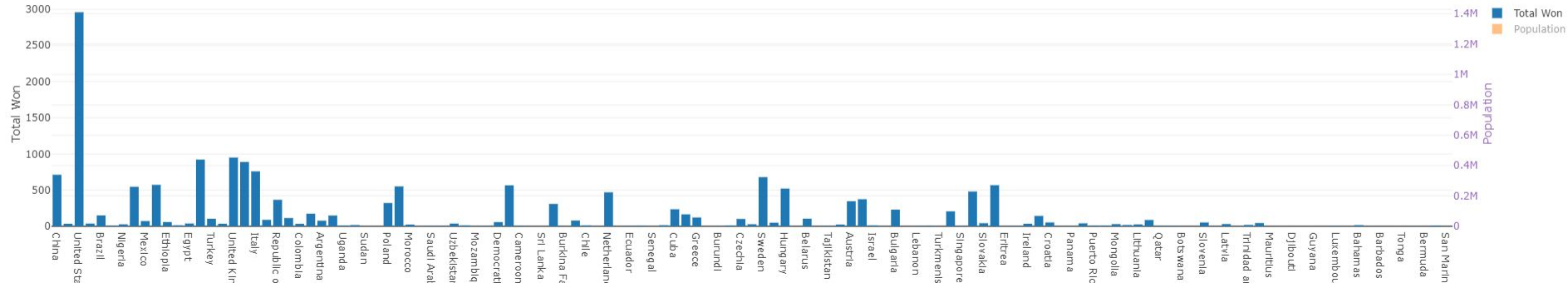


Top 10 Population Total Won & Population

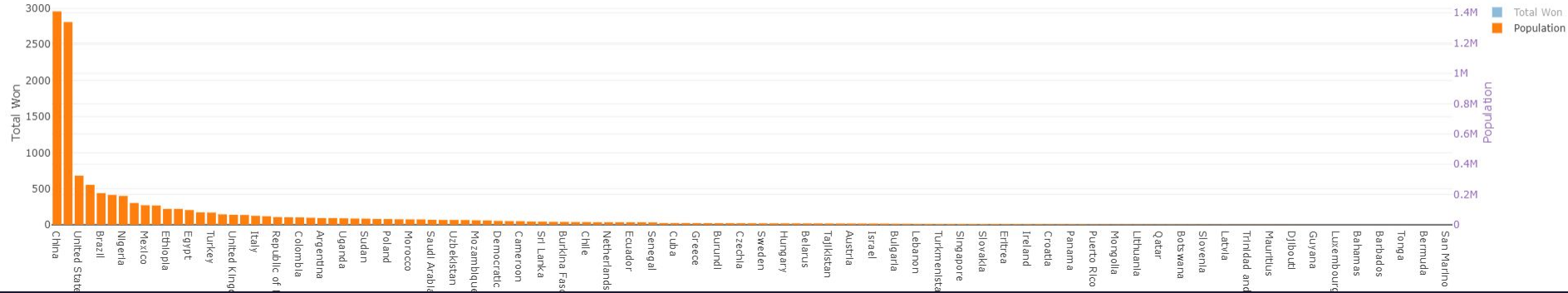


Bar Charts - Population Top 10

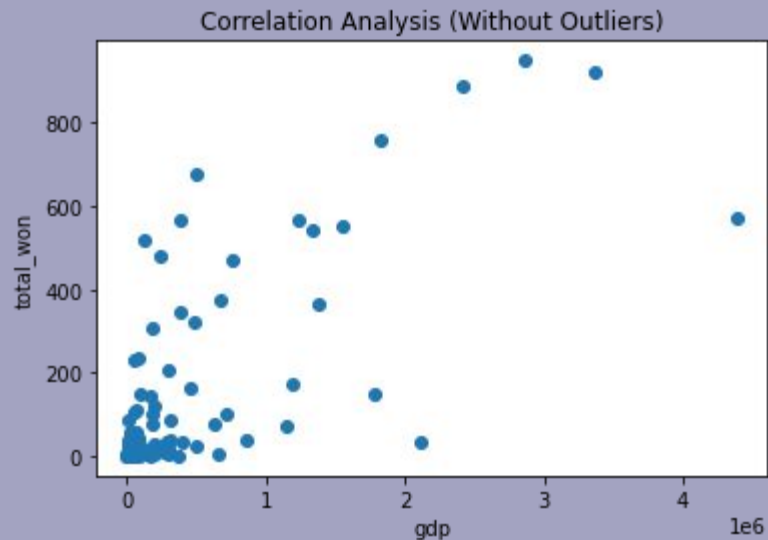
Ranked Population Total Won & Population



Ranked Population Total Won & Population



Bar Charts - Population



The correlation between gdp and total medals won is 0.84
Which is very strong.

Pearson's Correlation

**Absolute
Value of r**

**Strength of
Correlation**

$r < 0.3$

None or very weak

$0.3 \leq r < 0.5$

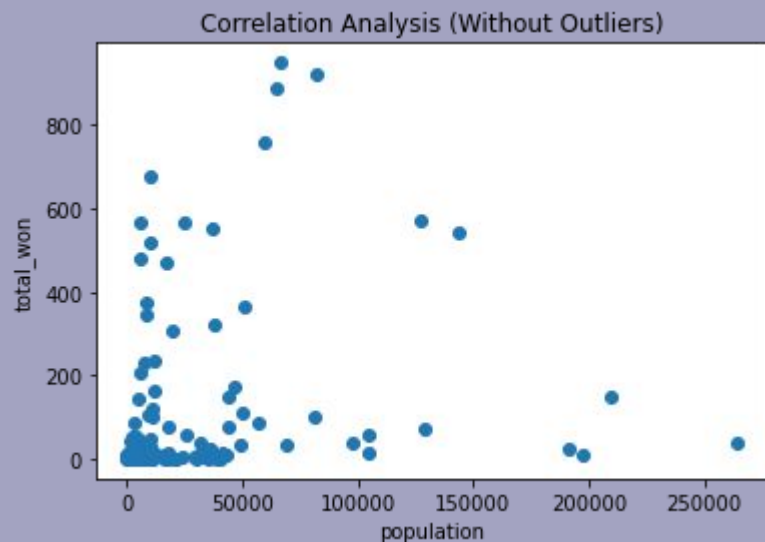
Weak

$0.5 \leq r < 0.7$

Moderate

$r \geq 0.7$

Strong



The correlation between population and total medals won is 0.23 which is very weak.

Pearson's Correlation

**Absolute
Value of r**

**Strength of
Correlation**

$r < 0.3$

None or very weak

$0.3 \leq r < 0.5$

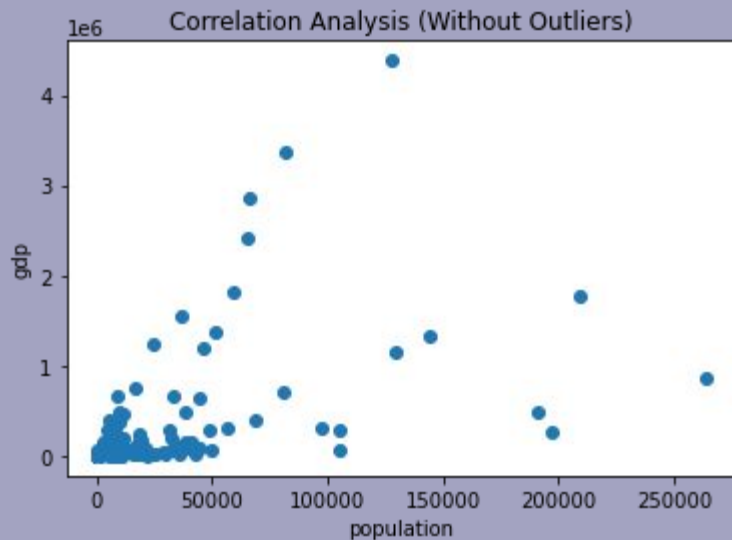
Weak

$0.5 \leq r < 0.7$

Moderate

$r \geq 0.7$

Strong



The correlation between population and gdp is 0.54
Which is moderate but not strong.

Pearson's Correlation

**Absolute
Value of r**

**Strength of
Correlation**

$r < 0.3$

None or very weak

$0.3 \leq r < 0.5$

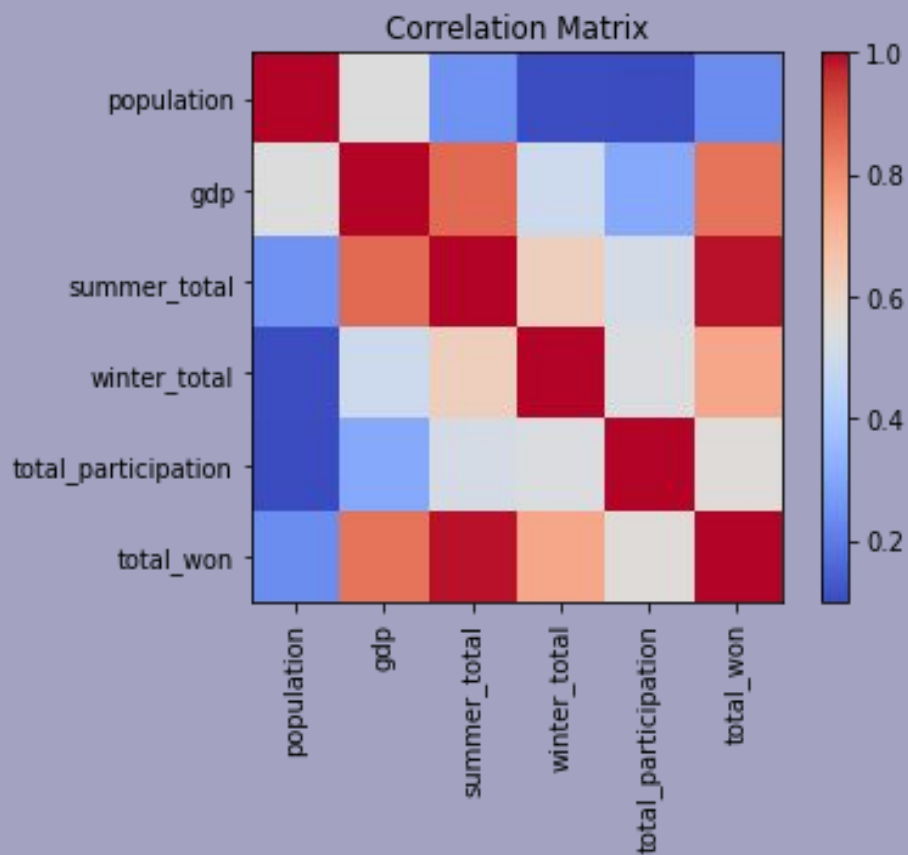
Weak

$0.5 \leq r < 0.7$

Moderate

$r \geq 0.7$

Strong



Pearson's Correlation

**Absolute
Value of r**

**Strength of
Correlation**

$r < 0.3$

None or very weak

$0.3 \leq r < 0.5$

Weak

$0.5 \leq r < 0.7$

Moderate

$r \geq 0.7$

Strong



Summary

From the analysis I believe:

- GDP has an effect on each country's success in the olympic games.
- Population may or may not have an effect, but much less than GDP.

Resources

- 1: https://en.wikipedia.org/wiki/All-time_Olympic_Games_medal_table
- 2: <https://www.kaggle.com/datasets/sudalairajkumar/undata-country-profiles>
- 3: <https://www.nbcsports.com/bayarea/beijing-2022-winter-olympics/which-countries-have-won-most-olympic-medals>
- 4: <https://www.athleteassessments.com/factors-and-obstacles-influencing-olympic-performance/>



Thank You

Anam Khalid

