







THE OLYMPICS:

GREATEST OLYMPIANS AND MOST  
SUCCESSFUL COUNTRIES



# Team Members



**Radford Aldridge**



**Ben Montague**

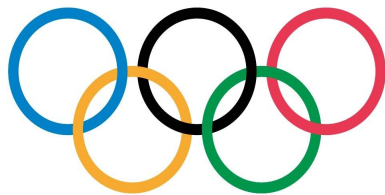


**Steve Kitay**



**Dieneba Diaby**

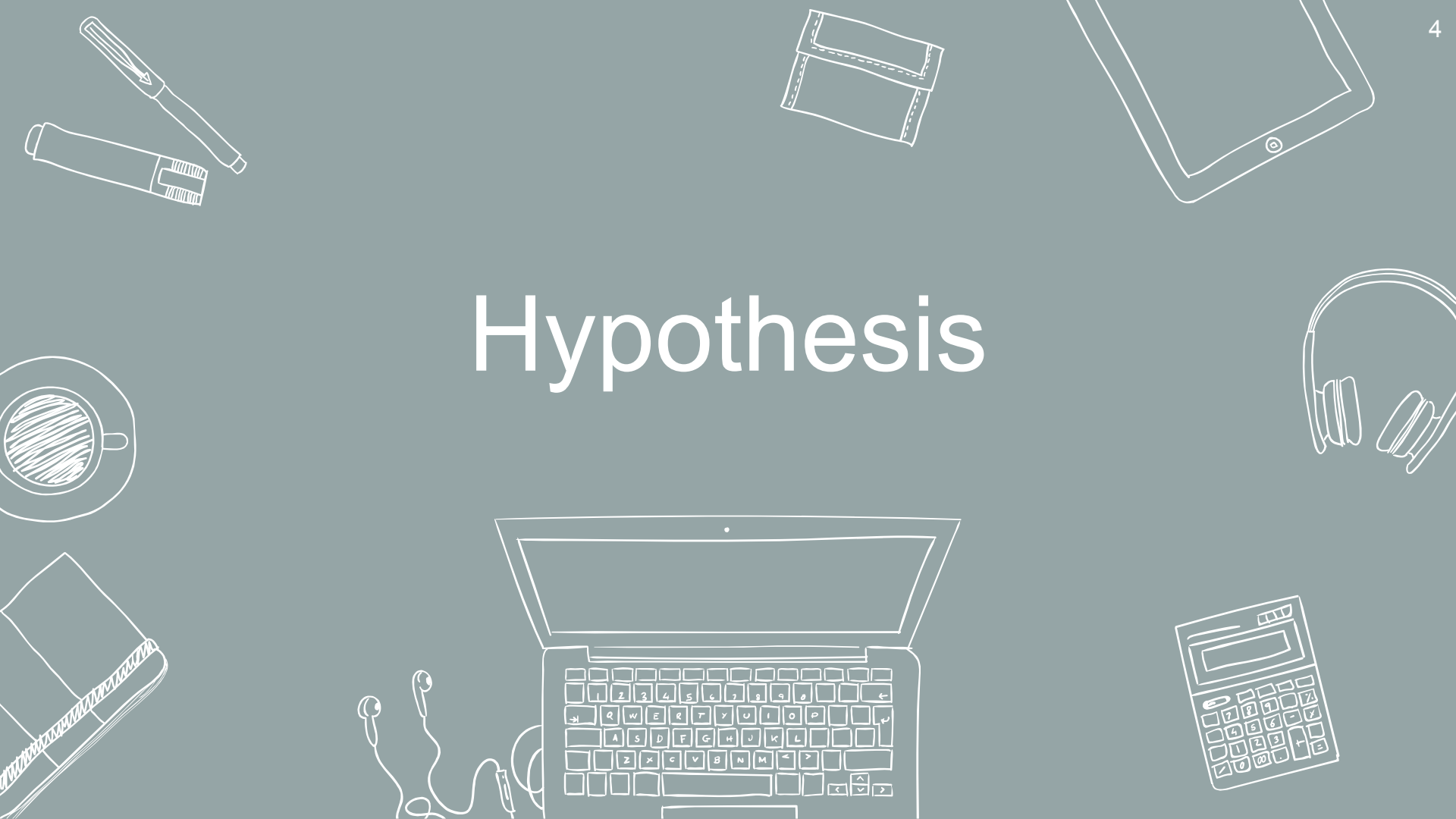
*August 3, 2021*



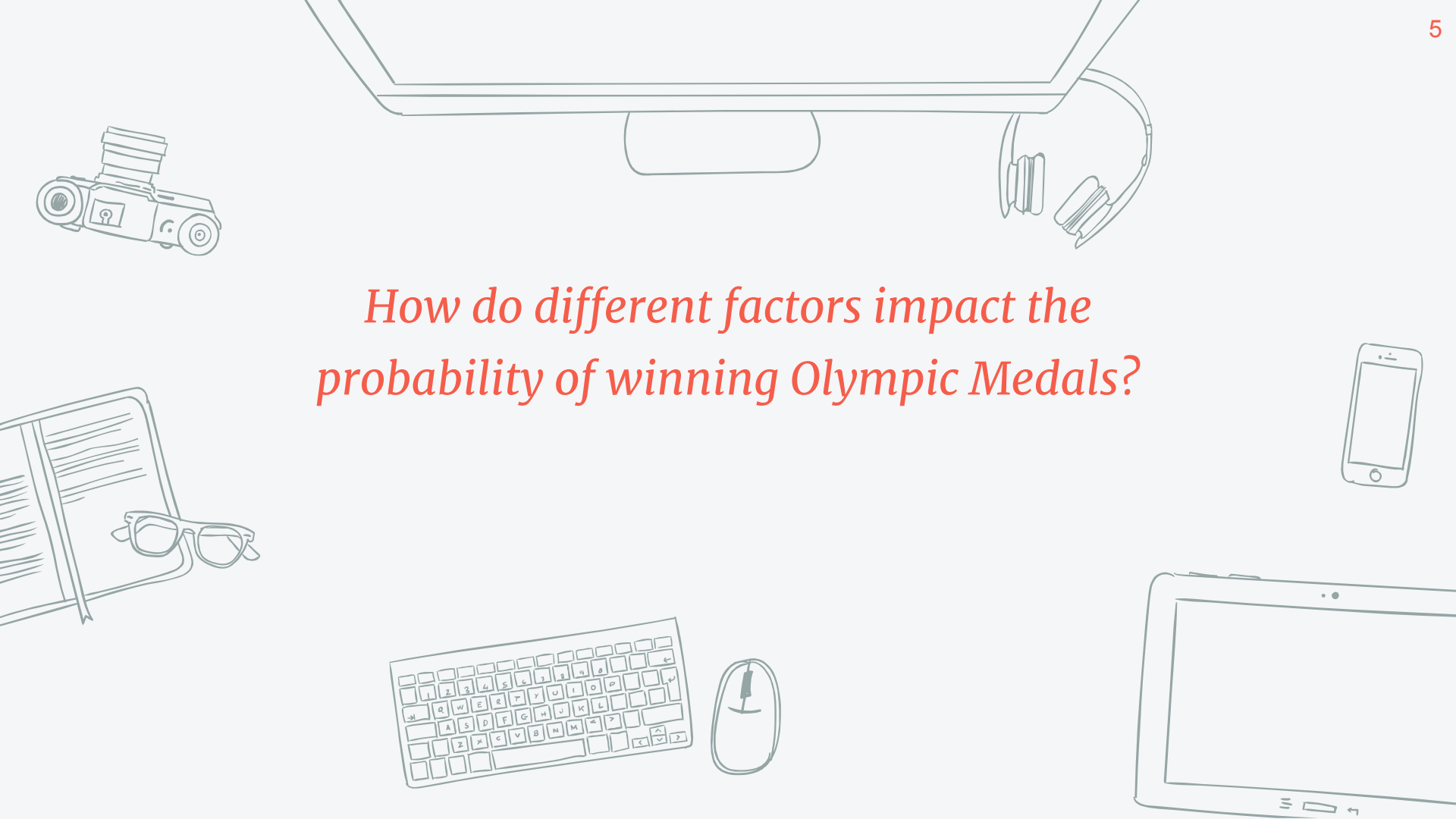
# Project Description

The project will examine what are the chances of winning an Olympic gold medal based on historical country and athlete-level data

# Hypothesis



*How do different factors impact the probability of winning Olympic Medals?*



# Guiding Questions

**Based on our data, we will answer the below questions and more through our presentation and visualizations:**

- How do different factors impact the probability of winning Olympic Medals?
- What kind of trends were present at the Athlete and Sport level?
- Is the performance of countries in Olympic games affected by the economic or demographic factors of the country?
- If you could choose a country and target an event, what would you pick to maximize chance of getting a medal?

August 3, 2021

# Datasets

To answer the questions, three datasets were used:

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## International GDP

*Source: World Bank national accounts data, and OECD National Accounts data files.*

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## Population

*Source: World Bank population data consolidated from census reports and national publications National Accounts data files.*

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## 120 Years of Olympic History: Athletes and Results

*Athlete and medal results from 1896 – 2016 scraped from [www.sports-reference.com](http://www.sports-reference.com) by Randi Griffin in Kaggle.*

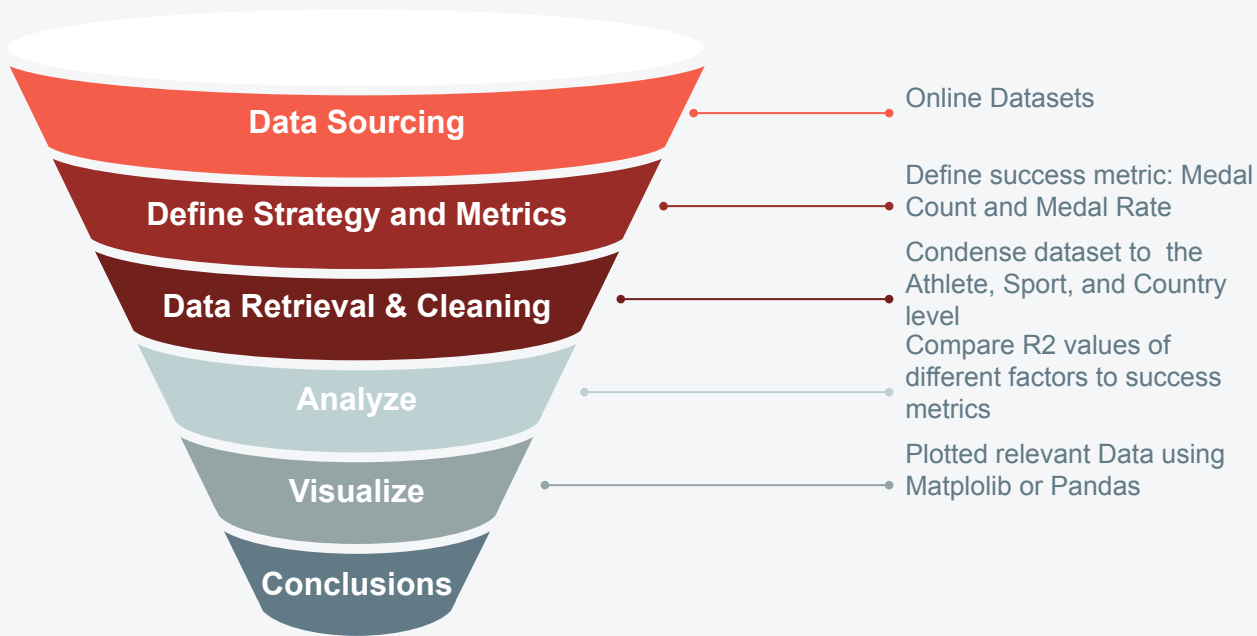
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# Process





# FUNNEL



## Main Metrics/ KPI

- ✖ Medal Count: Sum of Gold, Silver, & Bronze medals
  - Aggregating the data to different levels required extra considerations to ensure proper attribution
    - Ex. US Athletes have won over 2,500 Gold medals, but Team USA is only credited with 1,131 Gold medals
- ✖ Medal Rate: Medals won divided by total attempts by athlete, team, or country in any event/sport

# Caveats and Limitations

- Country-level data like GDP and Population were limited to 1960 – 2020
- The study does not look at the relative performance associated with the medals, rather treats performance as a binary outcome
- Height and weight were not normalized for gender demographics
- Fragmented data –ex, data for the USSR and Germany affected global conflicts, Switzerland also saw a gap in data points due to unknown circumstances
- Specific event performance was not analyzed

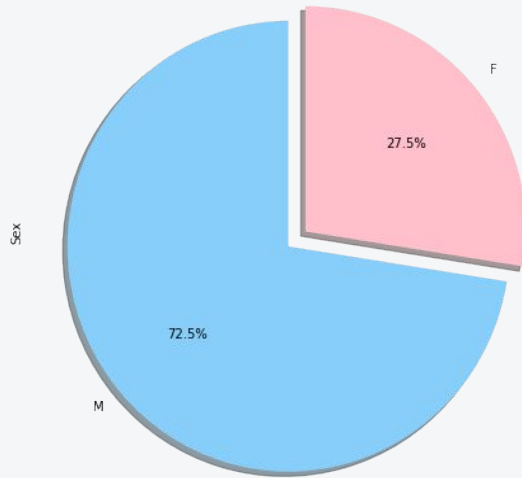
# Findings



# Athlete Data

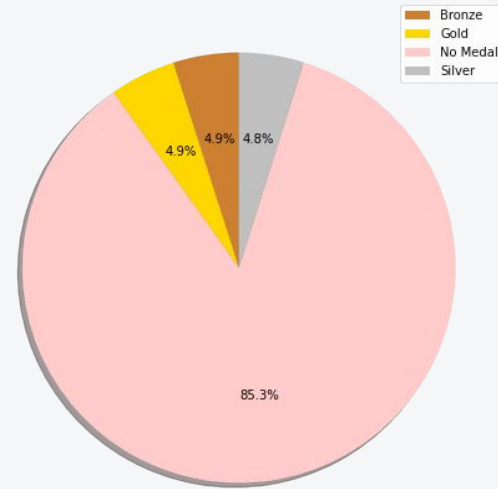
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## Overall Female VS Male representation



Over 271,116 athletes competing in the Olympics, 72.5 % are Male whilst 27.5% are Female

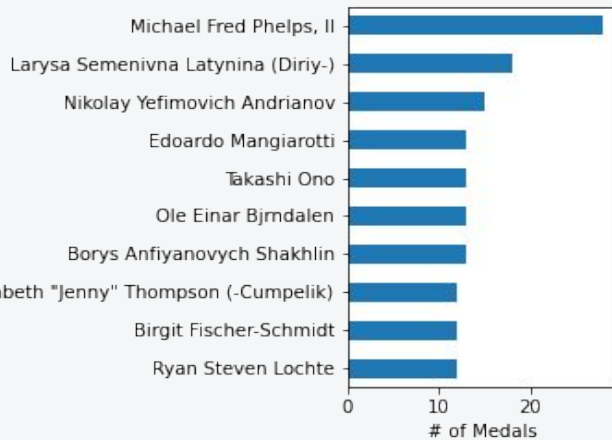
## Medal breakout



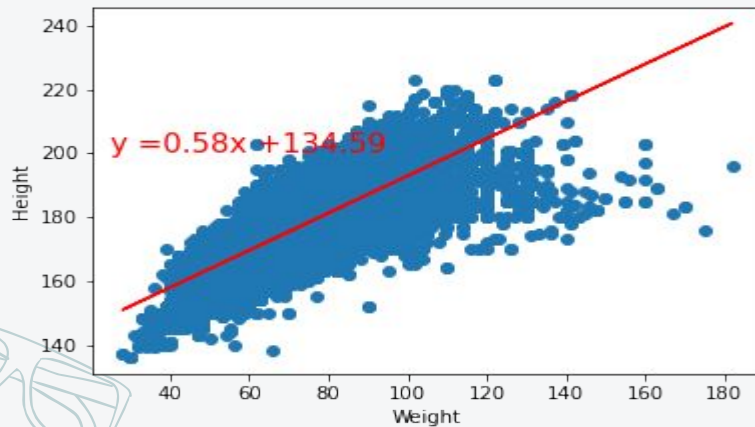
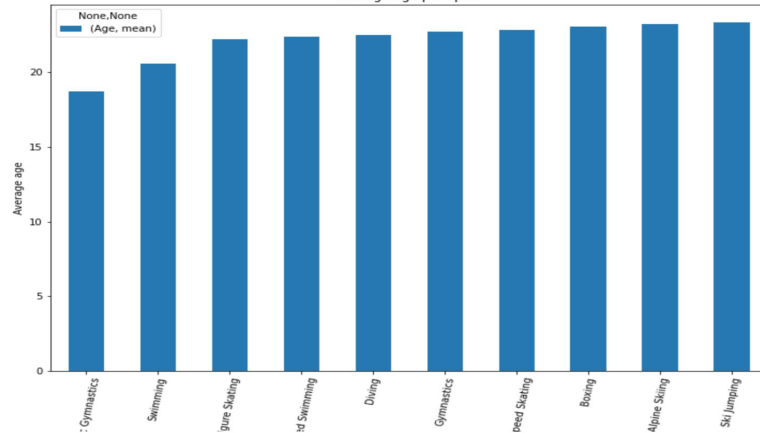
The olympics are highly competitive with only 15% of the athletes getting a medal

# Athlete Data

Most Medals Won

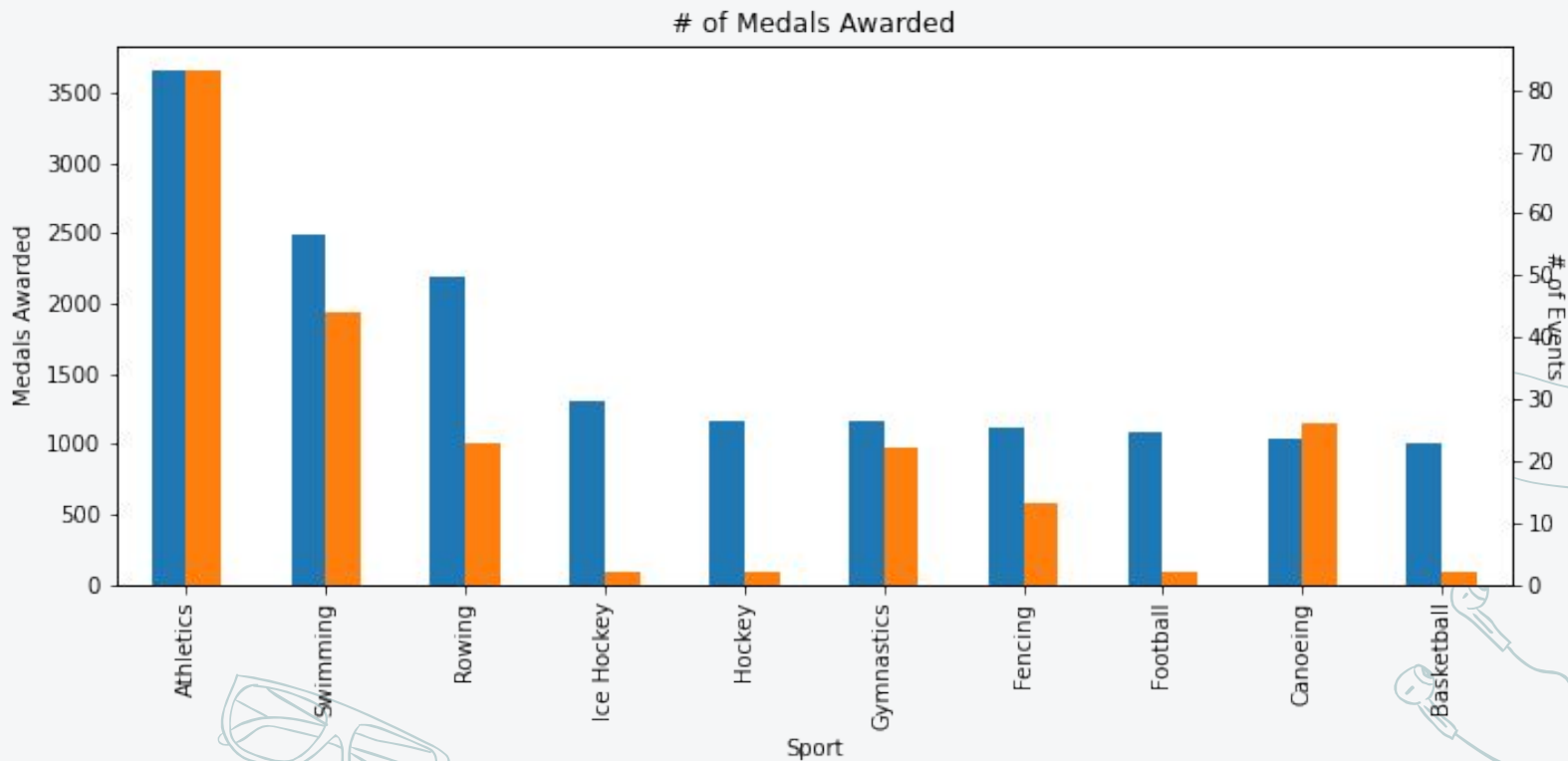


Average age per sport



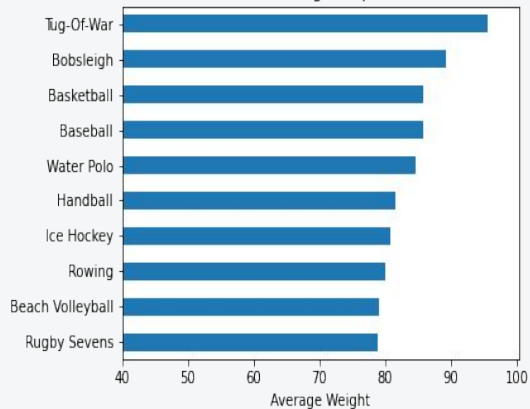
# Sport Data

What events give out the most medals? Why?

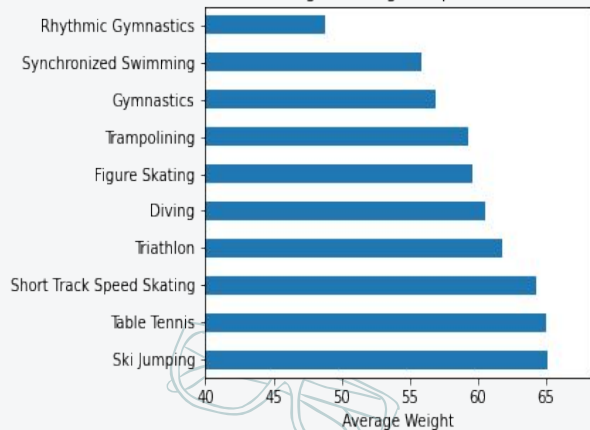


# Sport Data

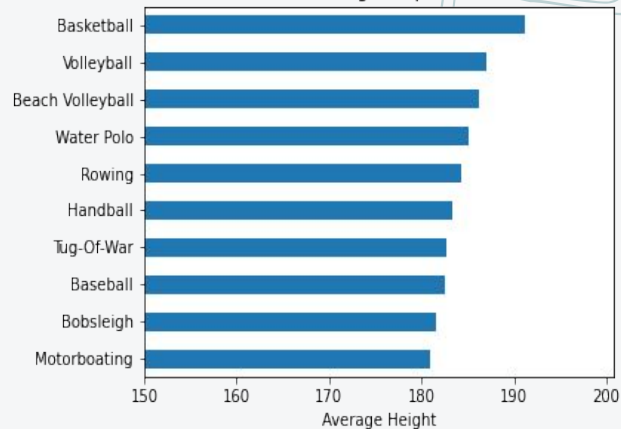
## Heaviest avg Competitors



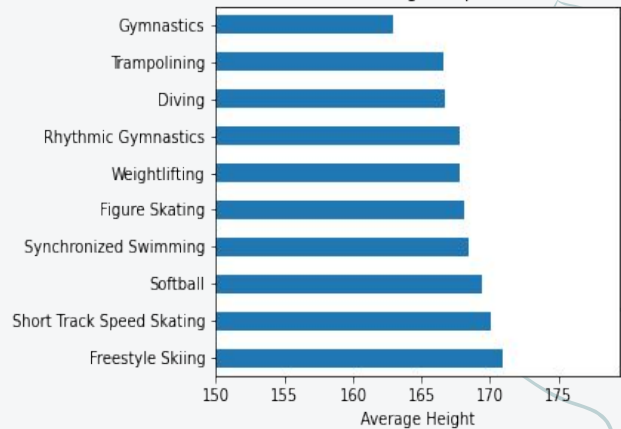
## Lightest avg Competitors



## Tallest avg Competitors



## Shortest avg Competitors

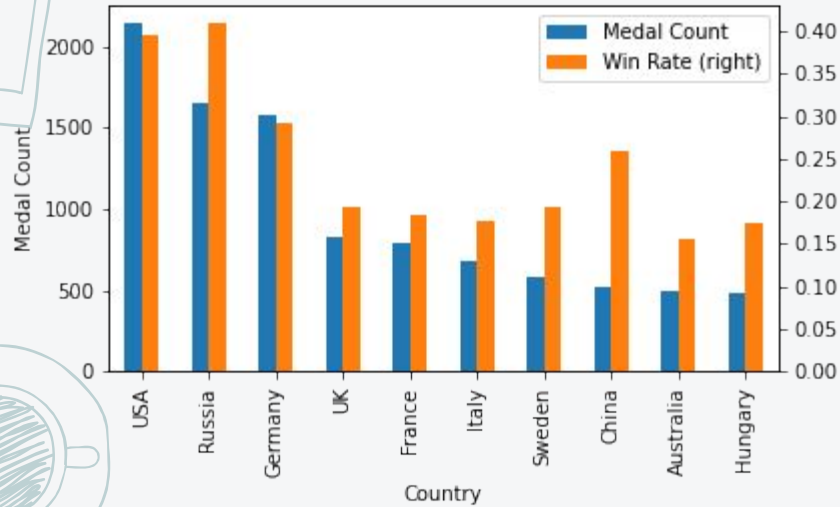




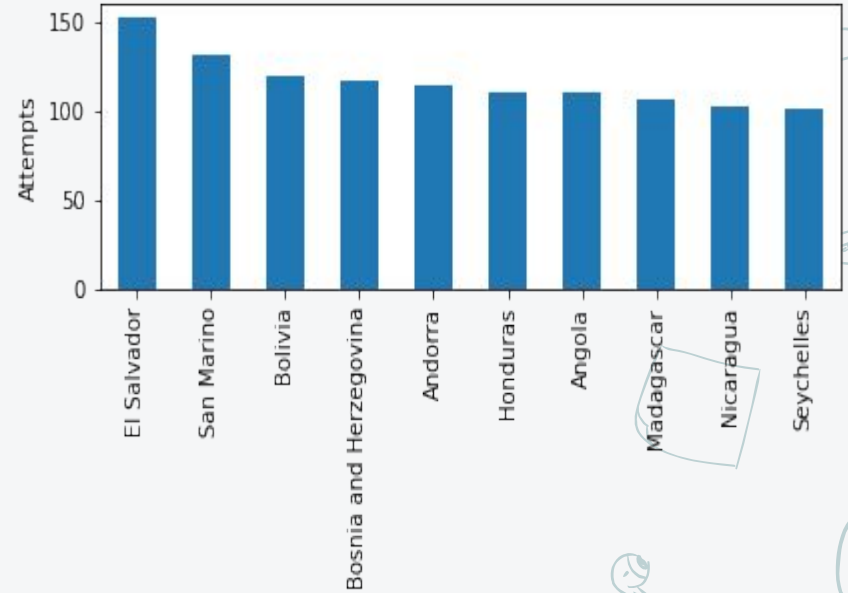
# Country Data

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Most Medals Won vs Win Rate

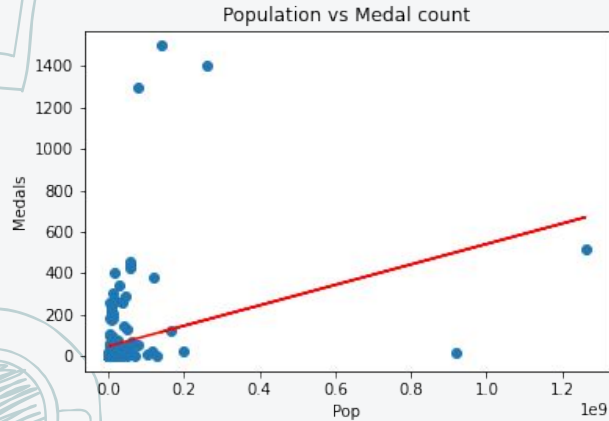


Most Attempts without a Medal



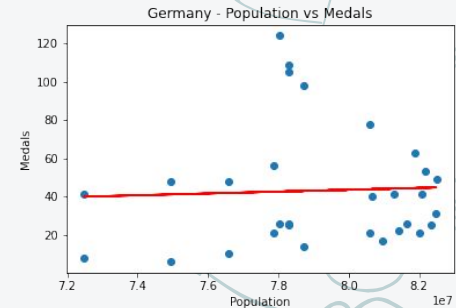
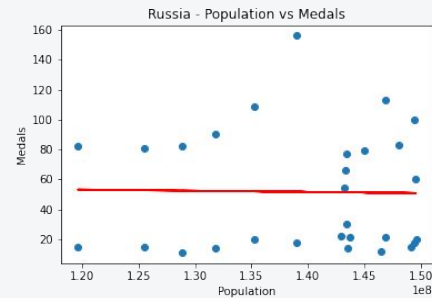
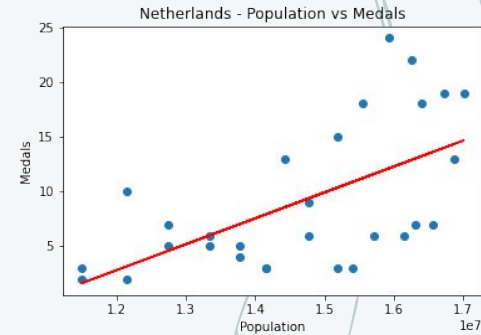
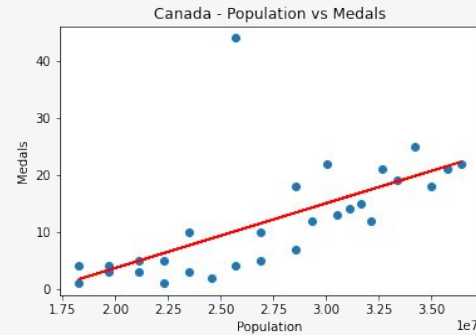
# Country Data

Does Population affect a country's medal count?



In aggregate, no trend is recognized

When viewing the data at a yearly level, some countries show more of a connection while others less

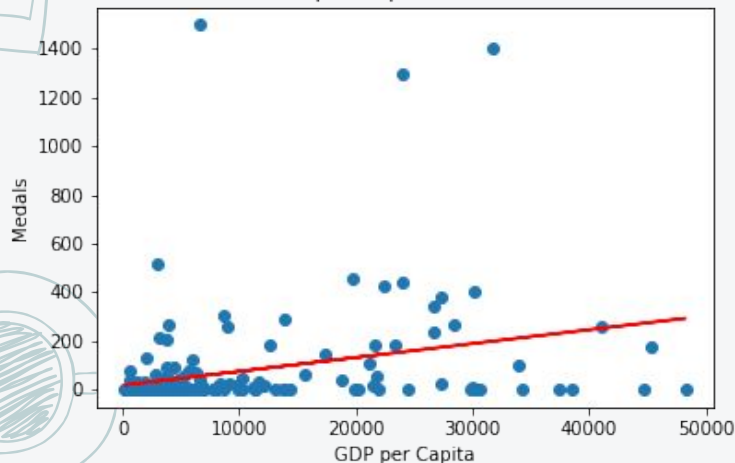


# Country Data

Does GDP per capita affect a country's medal count?

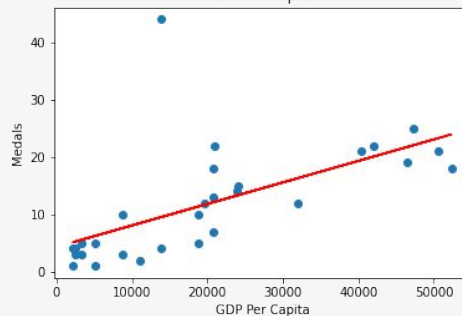
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GDP per Capita vs Medals

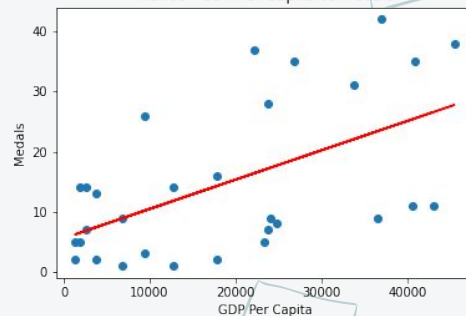


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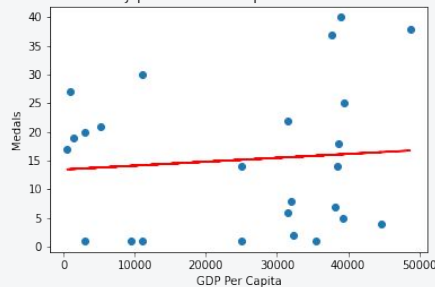
Canada - GDP Per Capita vs Medals



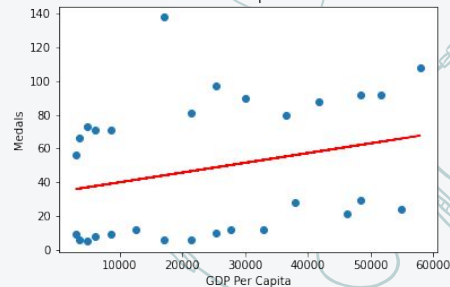
France - GDP Per Capita vs Medals



Japan - GDP Per Capita vs Medals



USA - GDP Per Capita vs Medals

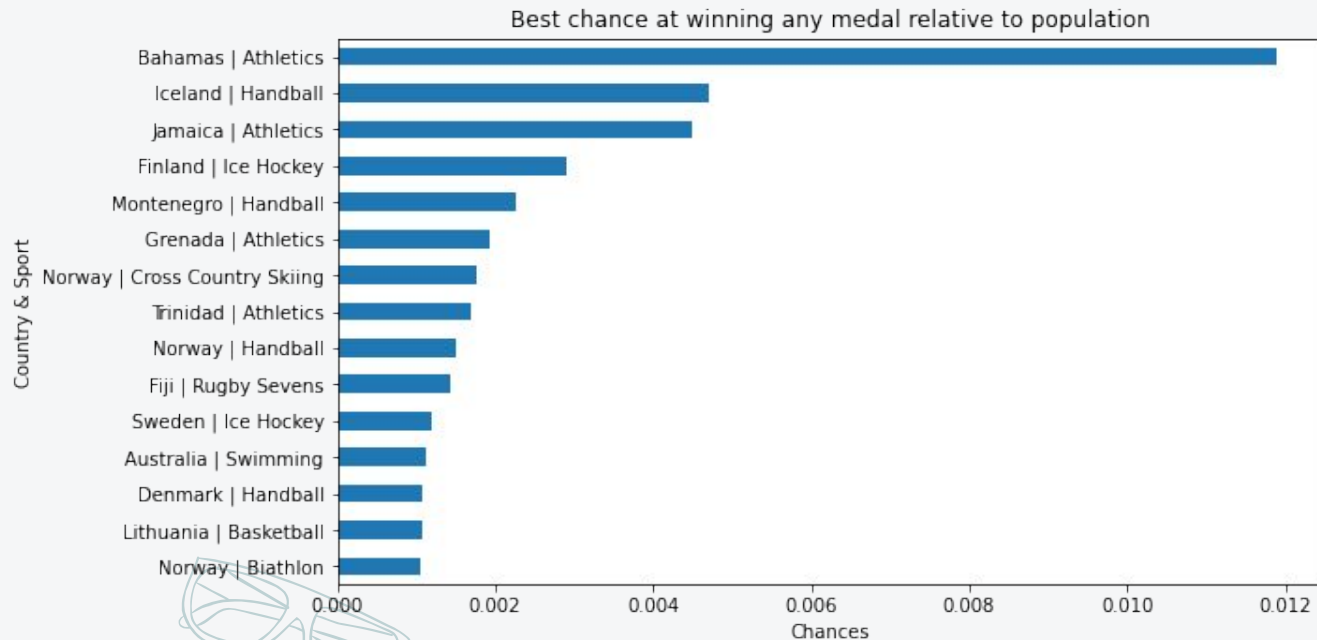


# Next Steps



# What are your best chances of getting a medal?

Assuming you could be reborn in any country (and become talented in a sport), which combination yields the highest chance of being an olympian and actually winning any medal?





**Thanks!**  
**Any questions?**

