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For our project, each person will be responsible for gathering relevant data on the topic. This could include information such as population data, the quantity of Olympic medals won by different countries, or any other data that is interesting and informative. Once we have collected our data, we will each work on creating visualizations that help to convey the key insights and trends within the data. We will also provide feedback and assistance to one another's codes in order to ensure that the visualizations are accurate, clear, and easy to understand. Finally, we will combine all of our work together into a comprehensive report that showcases our findings and insights.

ECON323 Proposal

In our project, our research interest is discussing the relationship between the number of Olympic medals won by a country and the GDP. We wanted to explore whether the trend in the number of Olympic medals over the past four Olympic Games also reflects the trend in the country's GDP in recent years.

We might easily speculate that there will be a strong positive correlation between GDP per capita and the quantity of Olympic medals won, nevertheless, we will verify this by doing regression in previous data at first. Then, we want to explore whether the relationship might go the other around. In this project, we want to explore some underlying reasons such as population, climate, cultural differences, and geographic features which might explain the relationship between countries' Olympic medals quantity and their GDP per capita.

Our data comes from three Summer Olympic Games (2008 Beijing, 2012 London, and 2016 Rio) and three Winter Olympic Games (2010 Vancouver, 2014 Sochi, and 2018 Pyeongchang). The reason we did not include the recent two Olympic games (2020 Tokyo, 2022 Beijing) is due to COVID-19, the GDP trend might change a lot because of this unexpected shock. Thus, We exclude the extraordinary time period data to make sure the outcome is close to the realized fact. Instead of using data on GDP, we would use GDP per capita for the panel data to predict how individuals earned and get a precise indicator of living conditions across countries.

1) Percentage of Owning a Medal:

- Countries with a larger population tend to have many professional sports players, which eventually increases the probability of obtaining medals.

2) Cultural feature :

- Over the past years, some countries may have their own strong sports, which make these countries might gain more medals in the Olympics.

EX. Chinese Table Tennis

3) Geographical feature:

- Countries with geographical premiums would have the privilege of such a project.

EX. Citizens in Africa are less likely to consider registering for the Winter Olympic games. (or discuss what they tend to register for)

EX. Canada/ Norway/ Switzerland might have more advantage in the Winter Olympic games.

4) Economic perspective:

- Usually, countries with higher GDP would focus on sector development such as sports, space, and high technology....
- They have an extra budget to put on such development in countries with lower GDPs.
- Better resources, infrastructure, coaching...