

Data-Driven Insights on Olympic sports

*Short Term
Internship*

Project report

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Olympic Sports:

Introduction: The term "sport" in olympic terminology refers to all events sanctioned by an international sport federation, a definition that may differ from the common meaning of the word "sport". one sport, by olympic definition, may comprise several disciplines, which would often be regarded as separate sports in common usage. the olympic games feature a wide range of sports that are categorized in to three main groups: the summer olympics, the winter olympics and the paralympics. The summer olympics include sports like Athletics, Swimming, gymnastics, football (Soccer), Basketball, tennis, cycling, Rowing, wrestling, weightlifting. and the winter olympics feature sports such as Alpine Skiing, ice hockey, figure skating, Snowboarding, Biathlon, Curling, Luge, Bobsleigh, cross-country skiing, speed skating. The paralympics showcase various adaptive sports for athletes with disabilities. These sports are governed by their respective international federations and are held every four years, alternating between summer and winter games. the 2020 summer olympics included 33 sports; the 2022 winter olympics included seven sports. each olympic sport is represented by an international governing body, namely an international federation (IF). The international olympic committee (IOC) establishes a hierarchy of sports, disciplines, and events.

● Overview of olympics:

The leading international sporting events featuring summer and winter sports competitions in which thousands of athletes from around the world participate in a variety of competitions. The ultimate goals are to cultivate human beings, through sport, and contribute to world peace. Summer Games and winter Games are held separately. These sports showcase a wide range of skills; from endurance and strength to precision and agility, and they bring together athletes from around the world to compete at the highest level in the spirit of the olympic sports. These are sports that have a permanent place in the olympic program.

Purpose:

The olympic sports serve several important purposes:

1. promote unity and peace: The olympic sports to promote international unity and peace through sports. by bringing together athletes from all over the world. the games foster a sense of camaraderie and mutual respect among nations.

2. Athletic Excellence: The olympics provide a platform for athletes to showcase their skills and compete at the highest level. It celebrates human achievements in physical prowess and performance.
3. Cultural exchange: The games offer an opportunity for athletes and spectators to know about and appreciate the cultural of different countries. This cultural exchange fosters understanding and appreciation of diversity.
4. Fair competition: The olympic movement emphasizes fair play and spirit of sportsmanship. Athletes compete based on merit, and the games encourage ethics and integrity in sports.
5. Inspiration: The olympics inspire people of all ages to get involved in sports and physical activities. They motivate individuals to strive for excellence and reach their full potential in various disciplines.
6. Global sporting showcase: The olympics serve as a global sporting showcase, featuring a wide range of sports and disciplines that might not receive as much attention otherwise.

Literature survey :

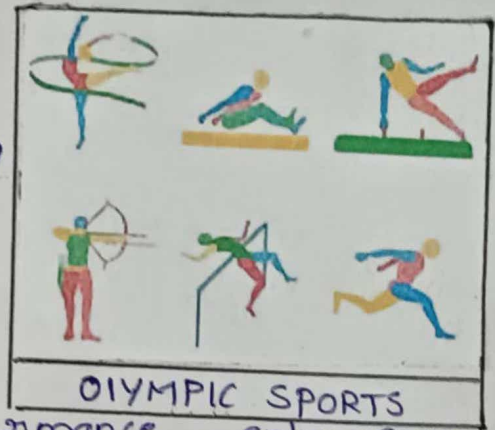
conducting a literature review on olympic sports can be a comprehensive task, as it involves examining a wide range of academic and non-academic sources to gather information on various aspects of olympic sports. Here's a general guideline on how to approach a literature review in this field.



1. Define the Research objectives : clearly define the scope and objectives of your literature review. Are you interested in a specific aspect of olympic sports, such as their history impact, controversies, or athletes' experiences?
2. Select Relevant Keywords : Identify keywords and search terms related to your research objectives. For example, "olympic sports history", "olympic athletes", "olympic controversies", and so on.
3. Search academic Database : Access academic databases like PubMed, Google Scholar, JSTOR, and academic library catalogs to search for peer-reviewed articles, dissertations, and scholarly books related to olympic sports.

Existing problem:-

One existing problem in olympic sports is the issue of doping, where athletes use performance-enhancing drugs to gain an unfair advantage. This undermines the principles of fair play and the integrity of the games. Efforts are continually being made to combat doping through testing and sanctions. There are several ongoing issues and challenges in olympic sports.



1. Doping: The use of performance-enhancing drugs continues to be a major concern, despite anti-doping measures. Athletes sometimes find new ways to evade detection.
2. Corruption: Scandals related to bribery and corruption within the organizations overseeing the olympics have occurred, undermining trust and transparency.
3. Cost and Infrastructure: Hosting the olympics can lead to excessive spending on infrastructure and facilities, sometimes leaving host cities with financial burdens.
4. Inclusivity: There's a need for greater gender equality and inclusivity in various sports, ensuring opportunities and recognition for all athletes.

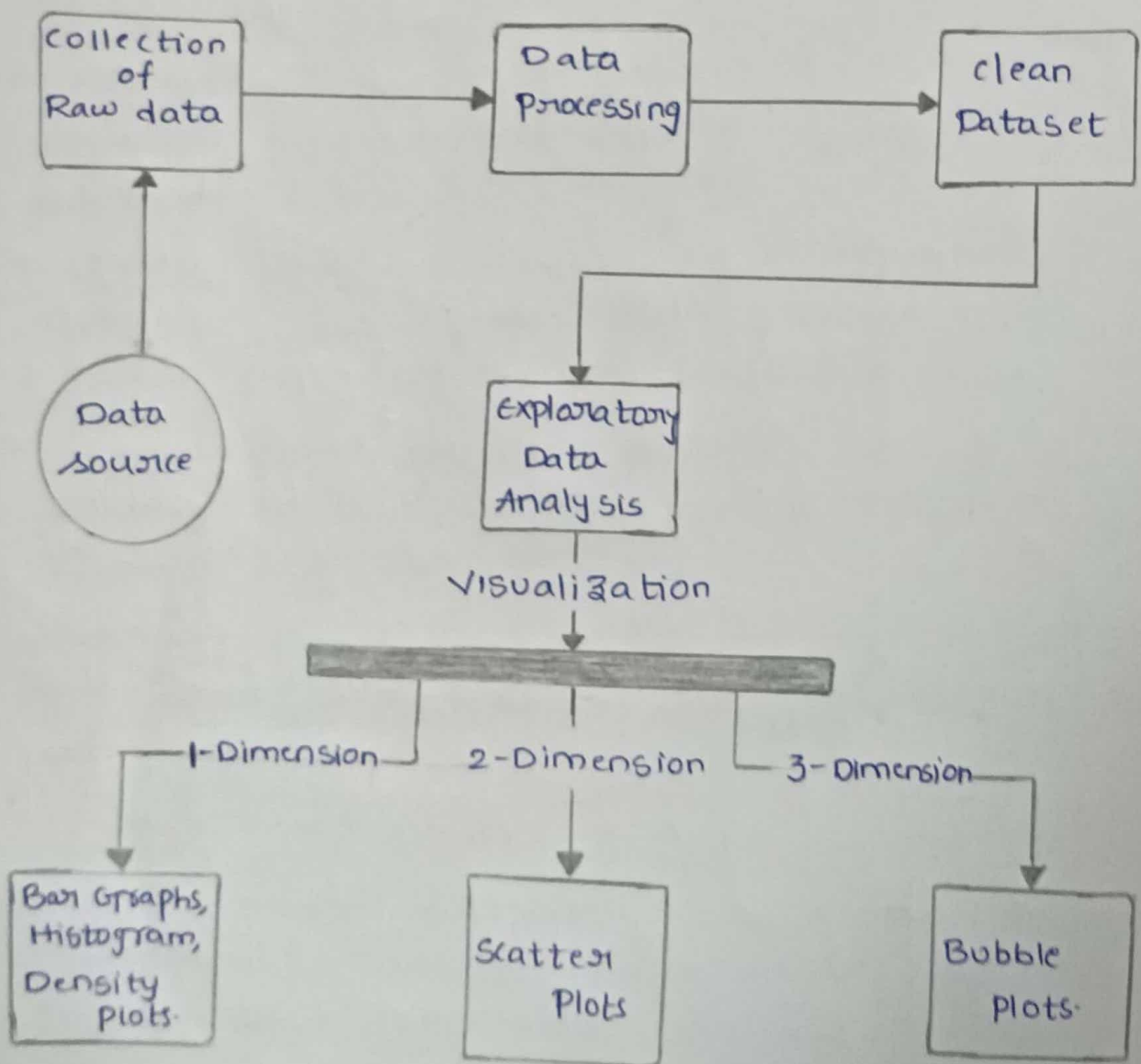
Proposed solutions:

There are various problems in Olympic sports, and solutions can vary depending on the specific issue. Here are a few common problems and potential solutions:

1. Doping: stricter drug testing and penalties. promote clean athletes as role models. Invest in education about the dangers of doping.
2. cost and Accessibility: subsidize or provide financial support for athletes from less privileged backgrounds.
3. Corruption: Implement transparent governance and financial reporting. hold officials accountable for unethical behaviour.
4. Gender equality: ensure equal opportunities and recognition for female athletes. promote more gender-balanced representation in leadership roles.
5. Environmental Impact: encourage eco-friendly venues and transportation. promote sustainable practices in organizing the games.
6. Injury prevention: Develop and enforce safety regulations. educate athletes about injury prevention and recovery.
7. Athlete mental health: provide access to mental health support. reduce the stigma surrounding mental health issues.
8. exploitative sponsorship: encourage ethical sponsorship agreements.

THEORETICAL ANALYSIS:

Block diagram: This is an exploratory data analysis in which firstly raw data is collected and the data is processed then we create a datamodule & we clean the dataset with unwanted matter & create relationship to the tables dataset & apply models & algorithm and then we make the visualization with 1-Dimension, 2-Dimension and 3-Dimension like Bar graphs, Histogram, Density plot in 1-Dimension and Scatter plots in 2-Dimension and Bubble plots in 3-Dimensions. by using the data set modified & filtered & then the final Data product will be obtained.



Hardware and software designing:

Hardware and software play crucial roles in olympic sports, contributing to athlete training, event management, and the overall success of the games. Here are some specific examples of their use:

Performance Analysis: software tools are used to analyze athletes' performance data, such as video footage and biomechanical measurements. This helps coaches and athletes make data-driven decisions to improve performance.

Video Analysis: High-speed cameras and specialized software are used to analyze an athlete's technique in sports like swimming, gymnastics, and track and field. Coaches can break down the video to identify areas for improvement.

Timing and Scoring System: olympic events rely on precise timing systems to determine winners. These systems often involve sophisticated hardware and software to record and display results accurately.

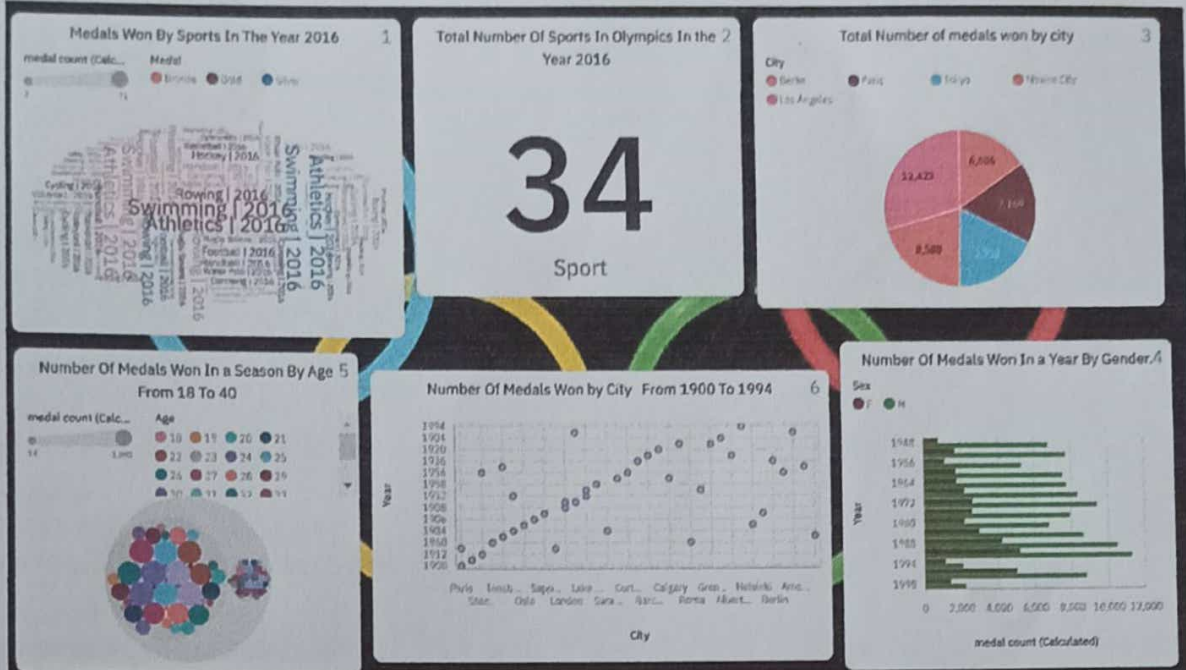
Training Simulators: Some sports, like shooting and archery, use computer-based simulators to train athletes in a controlled and safe environment. These simulators help improve aim and precision.

Biomechanical Analysis: software is used to analyze an athlete's biomechanics, which helps optimize movements and reduce the risk of injury. This is crucial in sports like javelin, discus, and long jump.

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olympic dashboard

Tab 1



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olympic dashboard

Filter(s) applied to the visualization(s):

Widget 1

Medal Includes: Gold, Bronze, Silver

Year Includes: 2016

Widget 2

Year Includes: 2016

Widget 3

City Includes: Los Angeles, Mexico City, Paris, Tokyo, Berlin

Widget 4

Year Includes: 1948, 1952, 1956, 1960, 1964, 1968, 1972, 1976, 1980, 1984, 1988, 1992, 1994, 1996, 1998

Widget 5

Age Includes: 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 26, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40

Year Includes: 2016, 2014, 2012, 2010

Widget 6

Year Includes: 1900, 1904, 1906, 1908, 1912, 1920, 1924, 1928, 1932, 1936, 1948, 1952, 1956, 1960, 1964, 1968, 1972, 1976, 1980, 1984, 1988, 1992, 1994, 1996, 1998

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project story

OLYMPIC SPORTS STORY

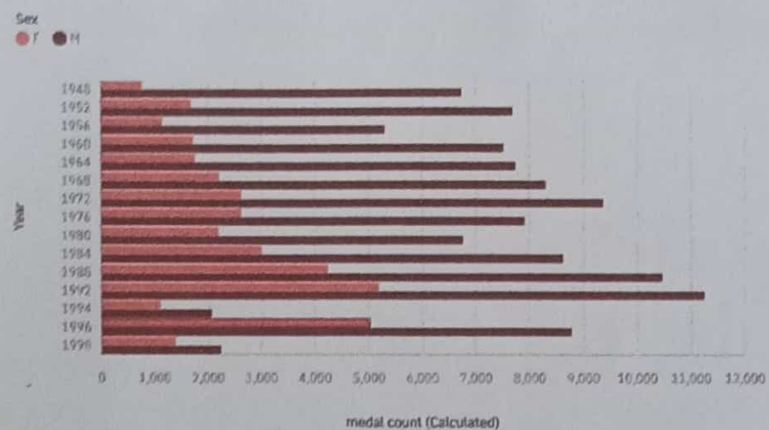


NUMBER OF MEDALS WON IN A YEAR BY GENDER

- This is a Bar chart
- This Bar chart represents about the total number of medals won in a year by gender
- Depending on my legend, female got almost number of medals in the year 1992
- In the year 1954 male and female got least number of medals

Number Of Medals Won In a Year By Gender

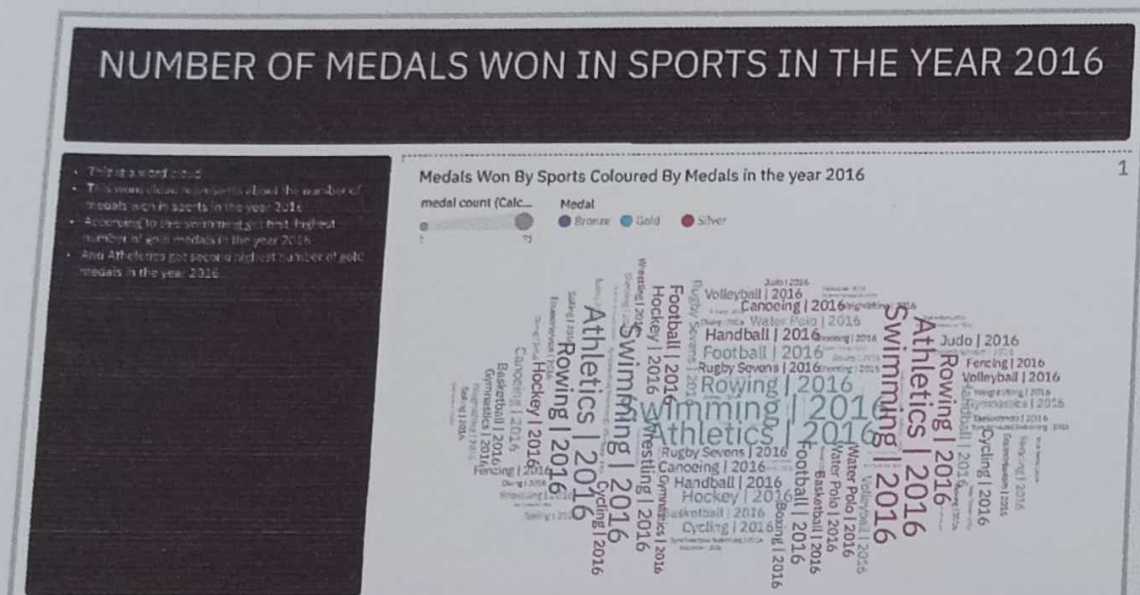
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project story

Widget 1

Widget 1
Year Includes: 1948, 1952, 1956, 1960, 1964, 1968, 1972, 1976, 1980, 1984, 1988, 1992, 1994, 1996, 1998



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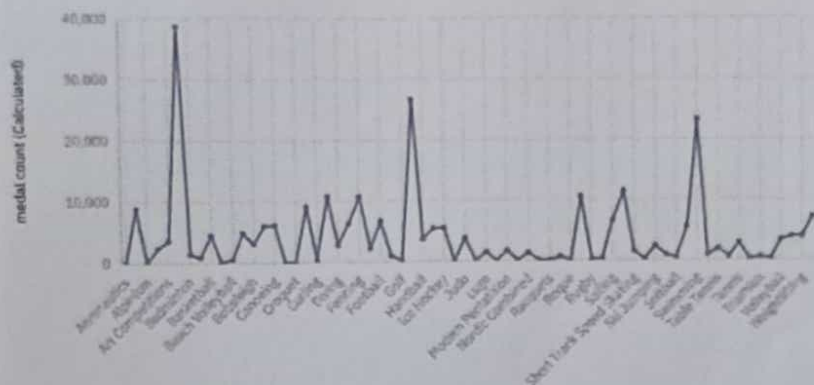
Medal Includes: Gold, Bronze, Silver

Year Includes: 2016

TOTAL NUMBER OF MEDALS WON IN SPORTS

- This is a line chart.
- This line chart represents the total number of medals won in sports.
- According to this sport, athletics got highest medal.

Medal Count by Sport



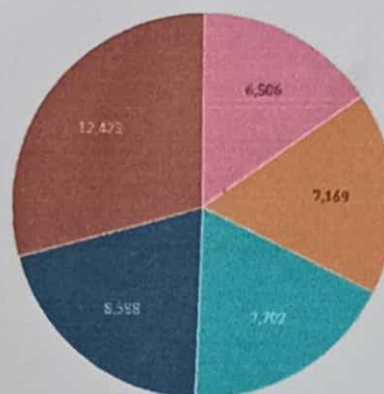
Sport

MEDALS WON IN SPORTS BY CITY

- This is a pie chart
- This pie chart represents about the medals won in sports by city
- According to this Los Angeles got the highest number of medals
- The city Berlin got the least number of medals

medal count by City

City
Berlin Paris Tokyo Mexico City Los Angeles



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project story

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Widget 1

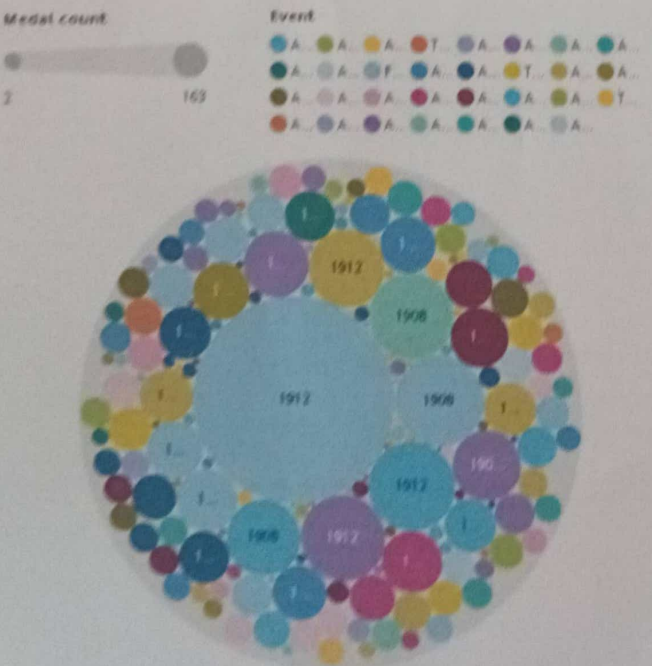
City Includes: Los Angeles, Mexico City, Paris, Tokyo, Berlin

OLYMPIC SPORTS REPORT

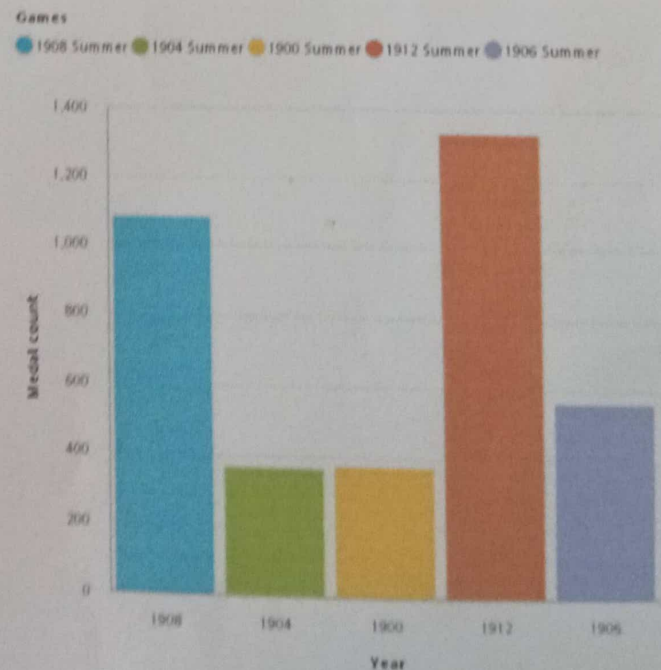
TOTAL NUMBER OF MEDALS WON IN SPORTS

NUMBER OF MEDALS WON BY A CITY IN A YEAR FROM
1900 TO 1912

NUMBER OF MEDALS WON IN A EVENT FROM THE
YEAR 1900 TO 1912



NUMBER OF MEDALS WON BY GAMES IN THE YEAR
FROM 1900 TO 1912



ADVANTAGES OF OLYMPIC SPORTS:

1. Global unity: The olympics promote international unity and cooperation by bringing athletes from around the world together to compete in the spirit of sportsmanship.
2. Physical sports: Olympic sports inspire people to lead healthier, more active lives and encourage fitness at all levels.
3. Cultural exchange: The olympics serve as a platform for cultural exchange, fostering an understanding of different cultures through sports.
4. National pride: Success in olympic sports can boost national pride and provide a sense of accomplishment for both athletes and their countries.

DISADVANTAGES OF OLYMPIC SPORTS:

1. High costs: The financial burden of hosting the olympics can be immense, often leading to overspending and long-term debt for host cities.
2. Inequality: Smaller and less affluent nations may struggle to compete with larger, more developed countries, leading to an imbalance in olympic success.
3. Pressure on athletes: The intense pressure on athletes can lead to physical and mental health issues, such as injuries and stress.
4. Corruption: There have been instances of corruption and unethical practices in the selection of host cities and organizing committees.

APPLICATIONS:

Olympic sports have wide ranging applications and benefits that extend beyond the games themselves. here are some of the key applications and impacts of olympic sports.

1. Physical fitness and Health: Olympic sports promote physical fitness, encouraging individuals to lead active and healthy lifestyles. they serve as inspiration for people to engage in sports and maintain their well-being.
2. Athlete development: olympic sports create a pathway for talented athletes to develop their skills and compete at the highest levels. this fosters talent development and sports excellence in various countries.
3. Economic Impact: Hosting the olympic can stimulate economic growth, as it involves investment in infrastructure, tourism, and job creation. it can also increase the visibility of host cities.

CONCLUSION:

In conclusion, olympic sports are not just about competition on the grand international stage; they have far reaching applications and impacts in various aspects of our lives and society. these sports promote physical fitness, foster athlete development, and encourage international diplomacy. the economic impact of hosting the olympics, combined with urban planning and infrastructure improvements, can transform host cities.

Olympic sports are a culmination of human athletic achievement, international cooperation, and

the integration of technology. The olympic games showcase the best of human physical abilities, teamwork, and sportsmanship. over time, technology has become an indispensable part of the olympic movement, influencing various aspects of sports, from training and performance analysis to event organization and broadcasting.

Community engagement, environmental sustainability, and the promotion of eco-friendly practices are increasingly integral to olympic events. overall, olympic sports serve as a symbol of unity, peace, and excellence transcending mere athletic competition to enrich the lives of individuals and societies world wide.

Future Scope:

The future scope of olympic sports holds numerous exciting possibilities and challenges. here are some key aspects to consider:-

1. Innovation in sports technology: Advancements in sports technology will continue, offering athletes and coaches new tools to enhance performance. This includes wearable devices, data analytics, virtual reality, and AI-driven coaching assistants.
2. sports and education: The integration of sports into educational curricula will be emphasized, teaching values like teamwork, leadership, and resilience.
3. Sustainability and environmental initiatives:

The olympics will increasingly focus on sustainability and environmental responsibility, with efforts to reduce carbon footprints, use renewable energy, and minimize waste.

The future scope of olympic sports is dynamic, reflecting and evolving nature of sports, society, and technology. The olympic movement will continue to adapt and expand its influence, aiming to inspire, unite, promote.