**DATA VISUALIZATION ASSIGNMENT #2**



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CSIS 3860 - 070, Fall 2023: DATA VISUALIZATION

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**The details of the data set –** number of fields, rows, and data size

The Olympic dataset contains four tables: olympic\_athletes, olympic\_hosts, olympic\_medals and olympic\_results. olympic\_athletes has 7 fields and 75904 rows, ,olympic\_hosts has 7 fields and 53 rows, olympic\_medals has 8 fields and 21697 rows, olympic\_results has 9 fields and 162804 rows, Data set size is 45,990KB.

**Analysis questions**

* Which countries have been the most successful in terms of total medals won across all Olympic Games?
* How has the total number of medals awarded evolved over the years?
* What trends can be observed in gender diversity over the history of the Olympic Games?
* Which country has hosted the most Olympics?
* Do host countries tend to win more gold medals?

**Data Connections**

Import data from 4 Olympics csv files into power bi

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**Data Transform Strategies**

* **Use first row as a Header** : Applies to the first row of Olympic medals.

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* **Replace Value** : Delete erroneous characters, such as Ã‰pÃ©e.

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* **Remove Columns** : Delete unnecessary column that will not be used.

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* **Capitalize Each Word** : Change the case of the athlete full name.

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* **Add Conditional Column** : Set the blank field of value type to null.

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* **Split Column by Delimiter** : Split the slug game into columns by city and year.

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* **Merge Query** : Merge the tables to create an Olympic total table.

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**Building the Data Model**

The tables are connected based on the athlete’s full name. The olympic host table functions as a date.

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**Leveraging DAX**

Game year and game month from the olympic\_hosts table to create a Year-Month.

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The average number of medals by sport

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The number of rows in the olympic\_results table where the medal type is "Gold."

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Total medal count up to the current context's maximum year**A screenshot of a computer

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Total number of medals by counting the rows where the medal type is either "Gold," "Silver," or "Bronze."

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Total number of medals up over the game year.

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**Visualization Data**

**Bar-Chart**

﻿United States of America in medal\_type GOLD made up 0.59% of Count of medal.

﻿Michael Phelps in medal\_type GOLD made up 0.09% of Count of medal.

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**Pie-Chart**

**﻿**Men had the highest Count of event\_gender at 13,932(64%), followed by Women(29%)

**﻿**Men had the highest Gold Medal Count at 4856(42%), followed by Women(27%)

**A close-up of a pie chart

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**Time-Series**

Depending on the year, the number of medals for gold, silver, and bronze is all on the rise, but has been stagnant since 2000. The number of men and women is increasing by year, and has become saturated since 2000.

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**Geographic**

The United States has won the most gold, silver, and bronze medals in Olympic history.

France, Japan, and the United States hosted the most Olympic Games, four each.

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**Bookmarks**

Using bookmarks, we can easily observe changes in the number of medals and people according to gender and year.

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**Answer your analysis questions through your reports**

Q : Which countries have been the most successful in terms of total medals won across all Olympic Games?

Bar Chart: This chart shows the percentage of gold medals obtained by each country. The United States has won the most gold(2595ea), silver(2475ea), and bronze medals(2376ea) in Olympic history.

Q. How has the total number of medals awarded evolved over the years?

Time-Series Chart: This chart displays the trend of gold, silver, and bronze medals over the years. The number of medals for gold, silver, and bronze is on the rise, but the growth has been stagnant since the year 2000.

Q. What trends can be observed in gender diversity over the history of the Olympic Games?

Pie Chart and Time-Series Chart : This chart compares the number of medals by gender in the Olympics. The number of medals and participants for both men and women is increasing by year, and has become saturated since the year 2000. Men had the highest count of event\_gender at 13,932 (64%), followed by women (29%). Men also had the highest Gold Medal Count at 4856 (42%), followed by women (27%).

Q. Which country has hosted the most Olympics?

Geographic Analysis: Through geographic analysis, it is observed that France, Japan, and the United States have each hosted the Olympics four times. This can be confirmed through a map or bar chart displaying the number of Olympics hosted by each country.

Q. Do host countries tend to win more gold medals?

Bookmarks show that hosts Russia and China won the most golds at their 2014 and 2022 Olympics, respectively, hinting at a home advantage.

**Power BI Explanation Video**

[**https://youtu.be/zl7aJWBjHn0**](https://youtu.be/zl7aJWBjHn0)

**References**

Microsoft Power BI Quick Start Guide – Preferably 3 rd edition- Devin Knight, Mitchell Pearson, Bradley Schacht,, et al – ISBN 9781804613498 – Packt Publishing – eBook available from publisher’s website (<https://www.packtpub.com/product/microsoft-power-biquick-start-guide-second-edition/9781804613498>)

Microsoft Ignite

https://learn.microsoft.com/en-us/power-bi/