

INT 217 Introduction to Data Management

An Excel Dashboard – Olympics Statistics

Submitted By

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Certificate

This is to certify that **Qazi Maaz Arshad** bearing Registration no. **11906424** has successfully completed **INT 217** (Introduction to Data Management) project titled, "**An Excel Dashboard – Olympics Statistics**" under my guidance and supervision. To the best of my knowledge, the present work is the result of his original development, effort, and study.

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Student Declaration

I, Qazi Maaz Arshad, 11906424 a student of **B.Tech Computer Science and Engineering** under CSE/IT Discipline at, **Lovely Professional University, Punjab**, hereby declare that all the information furnished in this project report is based on my own intensive work and is genuine.

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Abstract

Excel is a software program created by Microsoft that uses spreadsheets to organize numbers and data with formulas and functions. Excel analysis is ubiquitous around the world and used by businesses of all sizes to perform data analysis. Excel features calculation, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications, and several other features which make Excel a perfect choice to manage and analyze data. My project is an Excel Dashboard. The Excel Dashboard is used to display overviews of large data tracks. Excel Dashboards use dashboard elements like tables, charts, and gauges to show the overviews. The dashboards ease the decision-making process by showing the vital parts of the data in the same window. In this report, I have shared a project where I have done data analysis of an Olympics data set. This report also presents my learning during my course classes.

Chapter 1 - Introduction

I have created an **Excel dashboard** of an **Olympics data set**. This dashboard explains and highlights important facts, records, and trends in the Olympics history.

The data set used contains information regarding all the previous Winter and Summer Olympics. It includes information regarding all the participants involved in the games, the participating nations, the games played, when the Olympics were held, who was the host country, which participants won medals, what medals they won (gold, silver, bronze), what was the age, height, and weight of the players. The data set contains details of Approx. **271117** players.

I have **scrubbed** and **organized** the entire data set and performed the analysis of a clean data set. I have **deduced** and **calculated** important results from the data set with the help of various Excel features like **pivot tables** and **functions** and represented them in the form of a **dynamic dashboard** using excel visualizing tools and various charts.

Chapter 2 - Objectives

This project on Olympics statistics provides the records, facts, and trends of all the Summer and Winter Olympics since 1896 with respect to participants, nations, and games in various aspects.

However, here are the few main objectives that are discussed in the dashboard.

- Showing the total number of participants and winners, with respect to their game, nationality, age, year of participation, gender, and many more.
- Showing the performance of countries overall, or in a particular year, game, gender-based contributions, etc.

- Showing the performance of players overall, or in a particular year, game, gender-based contributions, or of a particular country. etc.
- Showing the most popular sports in the Olympics overall, or among males/females, participation index of a particular nation in a particular sport, etc.
- Highlighting the relationship between medal victory and age of players overall, in a particular season, in a specific sport or nation, etc.
- Highlighting the relationship between medal victory and height and weight of players overall, in a particular season, in a specific sport or nation, etc.
- Showing the male vs female medal victory ratio in the Olympics, overall, in a particular season, in a specific sport or nation, etc.
- Displaying trends in countries performance over the years with respect to a particular sport, gender specific, only in a particular season, etc.
- Highlighting the difference in countries performance in Summer and Winter Olympics.
- Showing participation index with respect to the host country.

Chapter 3 - Source of Dataset

The dataset is taken from **Kaggle**. Kaggle is a community of data scientists and data enthusiasts. This platform allows users to find and publish data sets.

I have selected an Olympics data set which contains important details of 120 years of Olympics History.

Here are the details of my chosen data set.

Name - 120 years of Olympic history: athletes and results

Link - <https://www.kaggle.com/heesoo37/120-years-of-olympic-history-athletes-and-results>

Author – rgriffin

Format – CSV

No. of Data Sets – 2

Size – 42 MB

No. of Rows – (1) 271116 + (2) 230

No. of Columns – (1) 15 + (2) 3

Data Set 1: Data Fields

- **ID** – (*Integer*) – Each player has a unique id
- **Name** – (*String*) – Name of player
- **Sex** – (*Char*) – **M** represents males, **F** represents Females
- **Age** – (*Integer*) – Shows age of players in **years**
- **Height** – (*Integer*) – Height of players in **Centimeter (cm)**
- **Weight** – (*Integer*) – Weight of players in **Kilograms (Kg)**
- **Team** – (*String*) – Name of sports team of players
- **NOC** – (*String*) – Initials of countries
- **Games** – (*String*) – Represents year and season ex. 2020 Summer
- **Year** – (*Date*) – Year of player participation
- **Season** – (*String*) – Identifies the season **Summer** or **Winter**
- **City** – (*String*) – Gives the name of the host country
- **Sport** – (*String*) – Name of the sport. ex. **Badminton**
- **Event** – (*String*) – Sub-event of the sport. ex. **Men's Single Badminton**
- **Medal** – (*String*) – Shows medal won **Gold, Silver, Bronze**, or **NA** if not won

Data Set 2: Data Fields

- **NOC** – (*String*) – Initials of countries
- **Region** – (*String*) – Gives the name of the country/place
- **Notes** – (*String*) – Details about the region

Table 3.1 – Raw Data Set

Data Set 1

| Name | Sex | Age | Height | Weight | Team | Year | Season | City | Sport | Event | Medal |
|------------------------------|-----|-----|--------|--------|----------------|------|-------------|-------------|----------------------|--|-------|
| 1 A Dijiang | M | 24 | 180 | 80 | China | CHN | 1992 Summer | 1992 Summer | Basketball | Basketball Men's Basketball | NA |
| 2 A Lamusi | M | 23 | 170 | 60 | China | CHN | 2012 Summer | 2012 Summer | Judo | Judo Men's Extra-Lightweight | NA |
| 3 Gunnar Nielsen Aaby | M | 24 | NA | NA | Denmark | DEN | 1920 Summer | 1920 Summer | Football | Football Men's Football | NA |
| 4 Edgar Lindenau Aabye | M | 34 | NA | NA | Denmark/Sweden | DEN | 1900 Summer | 1900 Summer | Tug-Of-War | Tug-Of-War Men's Tug-Of-War | Gold |
| 5 Christine Jacoba Aaftrir | F | 21 | 185 | 82 | Netherlands | NED | 1988 Winter | 1988 Winter | Speed Skating | Speed Skating Women's 500 metres | NA |
| 5 Christine Jacoba Aaftrir | F | 21 | 185 | 82 | Netherlands | NED | 1988 Winter | 1988 Winter | Speed Skating | Speed Skating Women's 1,000 metres | NA |
| 5 Christine Jacoba Aaftrir | F | 25 | 185 | 82 | Netherlands | NED | 1992 Winter | 1992 Winter | Speed Skating | Speed Skating Women's 500 metres | NA |
| 5 Christine Jacoba Aaftrir | F | 25 | 185 | 82 | Netherlands | NED | 1992 Winter | 1992 Winter | Speed Skating | Speed Skating Women's 1,000 metres | NA |
| 5 Christine Jacoba Aaftrir | F | 27 | 185 | 82 | Netherlands | NED | 1994 Winter | 1994 Winter | Speed Skating | Speed Skating Women's 500 metres | NA |
| 5 Christine Jacoba Aaftrir | F | 27 | 185 | 82 | Netherlands | NED | 1994 Winter | 1994 Winter | Speed Skating | Speed Skating Women's 1,000 metres | NA |
| 6 Per Knut Aaland | M | 31 | 188 | 75 | United States | USA | 1992 Winter | 1992 Winter | Cross Country Skiing | Cross Country Skiing Men's 10 kilometres | NA |
| 6 Per Knut Aaland | M | 31 | 188 | 75 | United States | USA | 1992 Winter | 1992 Winter | Cross Country Skiing | Cross Country Skiing Men's 50 kilometres | NA |
| 6 Per Knut Aaland | M | 31 | 188 | 75 | United States | USA | 1992 Winter | 1992 Winter | Cross Country Skiing | Cross Country Skiing Men's 10/15 kilometres Pairs | NA |
| 6 Per Knut Aaland | M | 31 | 188 | 75 | United States | USA | 1992 Winter | 1992 Winter | Cross Country Skiing | Cross Country Skiing Men's 4 x 10 kilometres Relay | NA |
| 6 Per Knut Aaland | M | 33 | 188 | 75 | United States | USA | 1994 Winter | 1994 Winter | Cross Country Skiing | Cross Country Skiing Men's 10 kilometres | NA |
| 6 Per Knut Aaland | M | 33 | 188 | 75 | United States | USA | 1994 Winter | 1994 Winter | Cross Country Skiing | Cross Country Skiing Men's 30 kilometres | NA |
| 6 Per Knut Aaland | M | 33 | 188 | 75 | United States | USA | 1994 Winter | 1994 Winter | Cross Country Skiing | Cross Country Skiing Men's 10/15 kilometres Pairs | NA |
| 6 Per Knut Aaland | M | 33 | 188 | 75 | United States | USA | 1994 Winter | 1994 Winter | Cross Country Skiing | Cross Country Skiing Men's 10/15 kilometres Relay | NA |
| 6 Per Knut Aaland | M | 33 | 188 | 75 | United States | USA | 1994 Winter | 1994 Winter | Cross Country Skiing | Cross Country Skiing Men's 4 x 10 kilometres Relay | NA |
| 6 Per Knut Aaland | M | 33 | 188 | 75 | United States | USA | 1994 Winter | 1994 Winter | Cross Country Skiing | Cross Country Skiing Men's 10/15 kilometres Relay | NA |
| 6 Per Knut Aaland | M | 33 | 188 | 75 | United States | USA | 1994 Winter | 1994 Winter | Cross Country Skiing | Cross Country Skiing Men's 10/15 kilometres Relay | NA |
| 6 Per Knut Aaland | M | 33 | 188 | 75 | United States | USA | 1994 Winter | 1994 Winter | Cross Country Skiing | Cross Country Skiing Men's 10/15 kilometres Relay | NA |
| 7 John Aalberg | M | 31 | 183 | 72 | United States | USA | 1992 Winter | 1992 Winter | Cross Country Skiing | Cross Country Skiing Men's 10 kilometres | NA |
| 7 John Aalberg | M | 31 | 183 | 72 | United States | USA | 1992 Winter | 1992 Winter | Cross Country Skiing | Cross Country Skiing Men's 50 metres | NA |
| 7 John Aalberg | M | 31 | 183 | 72 | United States | USA | 1992 Winter | 1992 Winter | Cross Country Skiing | Cross Country Skiing Men's 100 metres | NA |
| 7 John Aalberg | M | 31 | 183 | 72 | United States | USA | 1992 Winter | 1992 Winter | Cross Country Skiing | Cross Country Skiing Men's 300 metres | NA |
| 7 John Aalberg | M | 31 | 183 | 72 | United States | USA | 1992 Winter | 1992 Winter | Cross Country Skiing | Cross Country Skiing Men's 1,000 metres | NA |
| 7 John Aalberg | M | 31 | 183 | 72 | United States | USA | 1992 Winter | 1992 Winter | Cross Country Skiing | Cross Country Skiing Men's 3,000 metres | NA |
| 7 John Aalberg | M | 31 | 183 | 72 | United States | USA | 1992 Winter | 1992 Winter | Cross Country Skiing | Cross Country Skiing Men's 10/15 kilometres Relay | NA |
| 7 John Aalberg | M | 31 | 183 | 72 | United States | USA | 1992 Winter | 1992 Winter | Cross Country Skiing | Cross Country Skiing Men's 4 x 10 kilometres Relay | NA |
| 7 John Aalberg | M | 33 | 183 | 72 | United States | USA | 1994 Winter | 1994 Winter | Cross Country Skiing | Cross Country Skiing Men's 10/15 kilometres Relay | NA |
| 7 John Aalberg | M | 33 | 183 | 72 | United States | USA | 1994 Winter | 1994 Winter | Cross Country Skiing | Cross Country Skiing Men's 4 x 10 kilometres Relay | NA |
| 7 John Aalberg | M | 33 | 183 | 72 | United States | USA | 1994 Winter | 1994 Winter | Cross Country Skiing | Cross Country Skiing Men's 10/15 kilometres Relay | NA |
| 7 John Aalberg | M | 33 | 183 | 72 | United States | USA | 1994 Winter | 1994 Winter | Cross Country Skiing | Cross Country Skiing Men's 4 x 10 kilometres Relay | NA |
| 8 Cornelia "Cor" Aalten | F | 18 | 168 | NA | Netherlands | NED | 1992 Summer | 1992 Summer | Athletics | Athletics Women's 100 metres | NA |
| 8 Cornelia "Cor" Aalten | F | 18 | 168 | NA | Netherlands | NED | 1992 Summer | 1992 Summer | Athletics | Athletics Women's 4 x 100 metres Relay | NA |
| 9 Antti Sami Aalto | M | 26 | 186 | 96 | Finland | FIN | 2002 Winter | 2002 Winter | Ice Hockey | Ice Hockey Men's Ice Hockey | NA |
| 10 Einar Ferdinand "Einar" M | M | 26 | NA | NA | Finland | FIN | 1952 Summer | 1952 Summer | Swimming | Swimming Men's 400 metres Freestyle | NA |
| 11 Jorma Ilmari Aalto | M | 22 | 182 | 76.5 | Finland | FIN | 1980 Winter | 1980 Winter | Cross Country Skiing | Cross Country Skiing Men's 30 kilometres | NA |
| 12 Jyri Tapani Aalto | M | 31 | 172 | 70 | Finland | FIN | 2000 Summer | 2000 Summer | Badminton | Badminton Men's Singles | NA |
| 13 Minna Marita Aalto | F | 26 | 150 | 55.5 | Finland | FIN | 1996 Summer | 1996 Summer | Canoe | Canoe Women's Marathon | NA |

Data Set 2

| DC | Region | Notes |
|----|------------------------|----------------------|
| AF | Afghanistan | |
| AO | Curacao | Netherlands Antilles |
| AL | Albania | |
| AG | Algeria | |
| AD | Andorra | |
| AO | Angola | |
| AT | Antigua | Antigua and Barbuda |
| AU | Australia | Australasia |
| AR | Argentina | |
| AM | Armenia | |
| AW | Aruba | |
| AS | American Samoa | |
| AU | Australia | |
| AT | Austria | |
| AZ | Azerbaijan | |
| BB | Bahamas | |
| BD | Bangladesh | |
| BB | Barbados | |
| BI | Burundi | |
| BE | Belgium | |
| BN | Benin | |
| BM | Bermuda | |
| BT | Bhutan | |
| BA | Bosnia and Herzegovina | |
| BZ | Belize | |
| BL | Belarus | |
| CZ | Czech Republic | Bohemia |
| BO | Bolivia | |
| BW | Botswana | |
| BR | Brazil | |
| BN | Bahrain | |

Chapter 4 - ETL Process

In computing, extract, transform, load (ETL) is a process to prepare data for analysis, especially in data warehousing. Data extraction involves extracting data from homogeneous or heterogeneous sources, while data transformation processes data by transforming them into a proper storage format/structure for the purposes of querying and analysis; finally, data loading describes the insertion of data into the final target location such as an operational data store, a data mart, or a data warehouse. A properly designed ETL system extracts data from the source systems, enforces data quality and consistency standards, conforms data so that separate sources can be used together, and finally delivers data in a presentation-ready format so that application

developers can build applications and end users can make decisions. I have also performed many steps in the ETL process to prepare my data for analysis:

Extraction

The raw data has been taken from Kaggle, before processing the data it looked like this

Table 4.1 – Raw Data from Kaggle

< athlete_events.csv (41.5 MB)

Download

| Detail | Compact | Column | 10 of 15 columns ▾ | | | | | | | | |
|--|--------------------------|--------|--------------------|----------------------------|-----------------|-----------------------------|------------------|----------------------------|--|--|--|
| About this file | | | | | | | | | | | |
| Each row is an athlete-event. The ID column can be used to uniquely identify athletes, since some athletes have the same name. | | | | | | | | | | | |
| >ID | Name | Sex | Age | Height | Weight | | | | | | |
| 136k | 134732 unique values | M F | 73% 27% | 23 24 Other (227521) | 8% 8% 84% | NA 180 Other (198453) | 22% 5% 73% | NA 70 Other (198616) | | | |
| 1 | A Dijiang | M | 24 | 180 | | 88 | | | | | |
| 2 | A Lamusi | M | 23 | 178 | | 68 | | | | | |
| 3 | Gunnar Nielsen Aaby | M | 24 | | NA | | NA | | | | |
| 4 | Edgar Lindenau Aabye | M | 34 | | NA | | NA | | | | |
| 5 | Christine Jacoba Aaftink | F | 21 | 185 | | 82 | | | | | |
| 5 | Christine Jacoba Aaftink | F | 21 | 185 | | 82 | | | | | |

< noc_regions.csv (3.6 kB)

Download

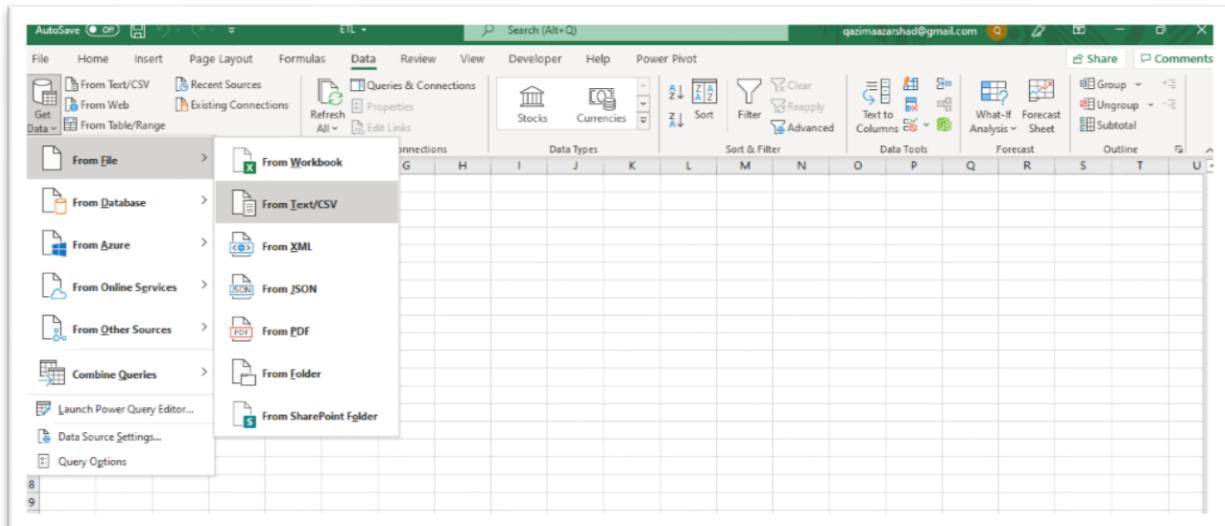
| Detail | Compact | Column | 3 of 3 columns ▾ | | |
|--|--|-----------------|--|-----------------|--|
| About this file | | | | | |
| 1. NOC (National Olympic Committee 3 letter code) 2. Country name (matches with regions in map_data("world")) 3. Notes | | | | | |
| NOC | region | notes | | | |
| 230 unique values | Germany Czech Republic Other (223) | 2% 1% 97% | [null] Netherlands Antilles Other (20) | 91% 0% 9% | |
| AFG | Afghanistan | | | | |
| AHO | Curacao | | Netherlands Antilles | | |
| ALB | Albania | | | | |
| ALG | Algeria | | | | |
| AND | Andorra | | | | |
| ANG | Angola | | | | |
| ANT | Antigua | | Antigua and Barbuda | | |

The data can be imported into excel directly from the web using get data features, but I have first downloaded the CSV files manually from excel then imported it into excel using the get data feature.

Step 1 – Open a new excel workbook.

Step 2 – Use the Get Data feature.

Table 4.2 – Importing CSV Data Sets



Step 3 – Load to Connection

Table 4.3 – Loading to Connection

The top screenshot shows the 'Raw Data 1.csv' file being loaded into the Power Query Editor. The bottom screenshot shows the 'Import Data' dialog box, where the user has selected 'Only Create Connection' and 'New worksheet' options.

Step 4 – Repeat the process for all the data sets. In my case there were only two data sets.

Now that we have extracted the data from the source and have imported it, now is the time to transform the data.

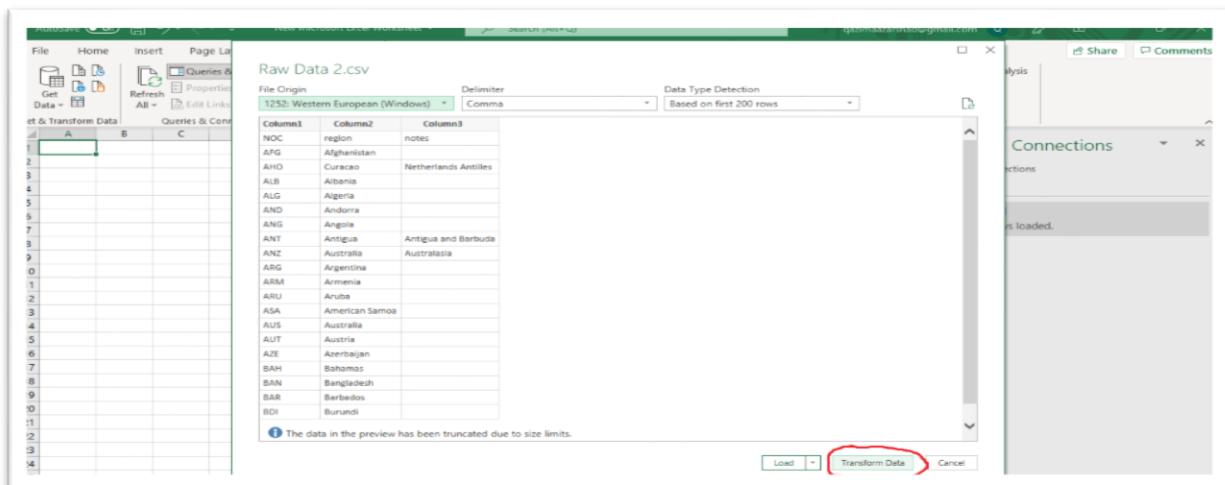
Transform

If we want to transform the data before loading it can be done.

Although transformation can be done even after loading the data, but it is better to first process the data before loading.

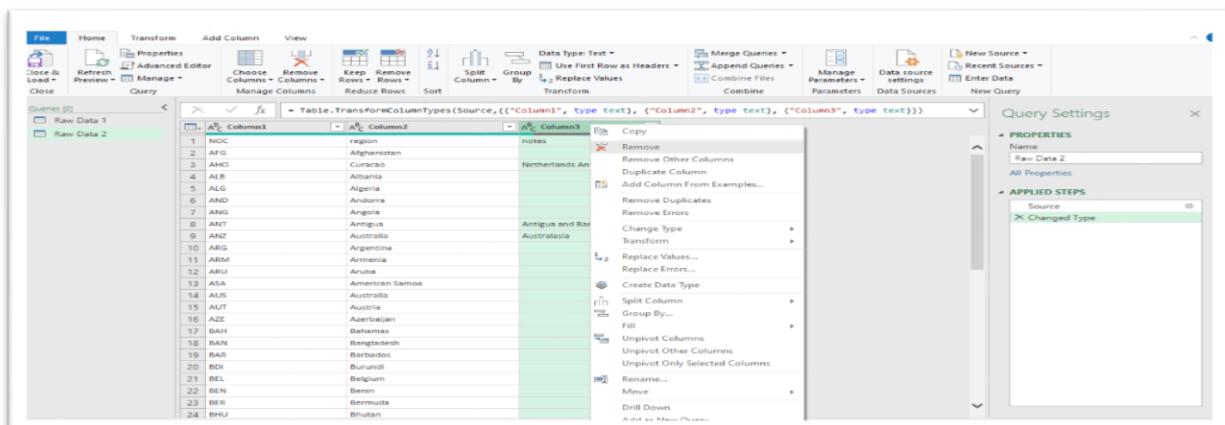
Step 1 – Use Get Data feature. But instead of loading to connection, click on **transform**.

Table 4.4 - Transforming Data



Step 2 – Remove the unwanted rows or column or modify the data in **Power Query Editor**.

Table 4.5 – Deleting columns in Power Query Editor



Now I have removed the unwanted column in the data set.

Table 4.6 – Table After Transforming in Power Query Editor

| Column1 | Column2 |
|---------|----------------|
| NOC | Afghanistan |
| AFG | Curacao |
| AHO | Albania |
| ALB | Algeria |
| ALG | Andorra |
| AND | Angola |
| ANG | Antigua |
| ANT | Australia |
| ANZ | Argentina |
| ARG | Armenia |
| ARM | Aruba |
| ARU | American Samoa |
| ASA | Australia |
| AUS | Austria |
| AUT | Azerbaijan |
| AZE | Bahamas |
| BAH | Bangladesh |
| BAN | Barbados |
| BAR | Burundi |
| BDI | Belgium |
| BEL | Benin |
| BEN | Bermuda |
| BER | Bhutan |
| BHU | |

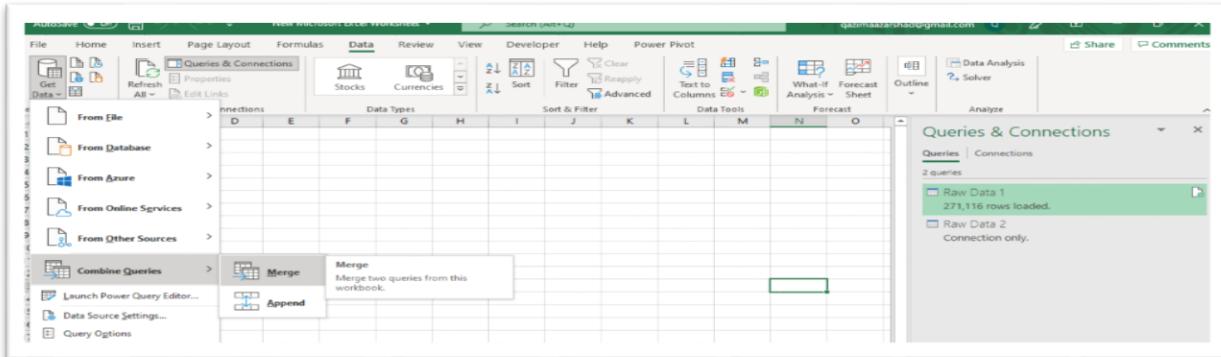
Now after we had imported and transformed all the data sets it will look like this

Table 4.7 – All the Queries and Connections

Step 3 – Merging both data sets. In data set 1 I have the name of country as NOC (only initials of the country) which makes it difficult to identify the country, in the other data set I have the full names of countries, so I want to **merge the regions column** (country name) of data set 2 to data set 1, **comparing the NOC column**.

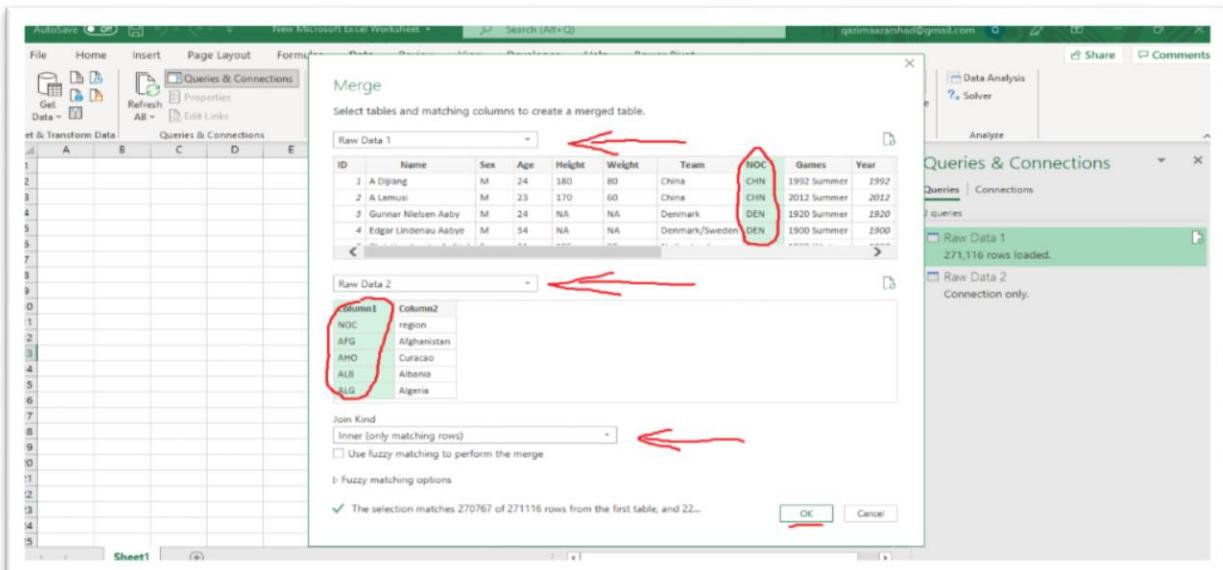
To merge queries, use the **Get Data** feature -> Use **Combine Queries**
-> **Merge**

Table 4.8 – Combining Queries



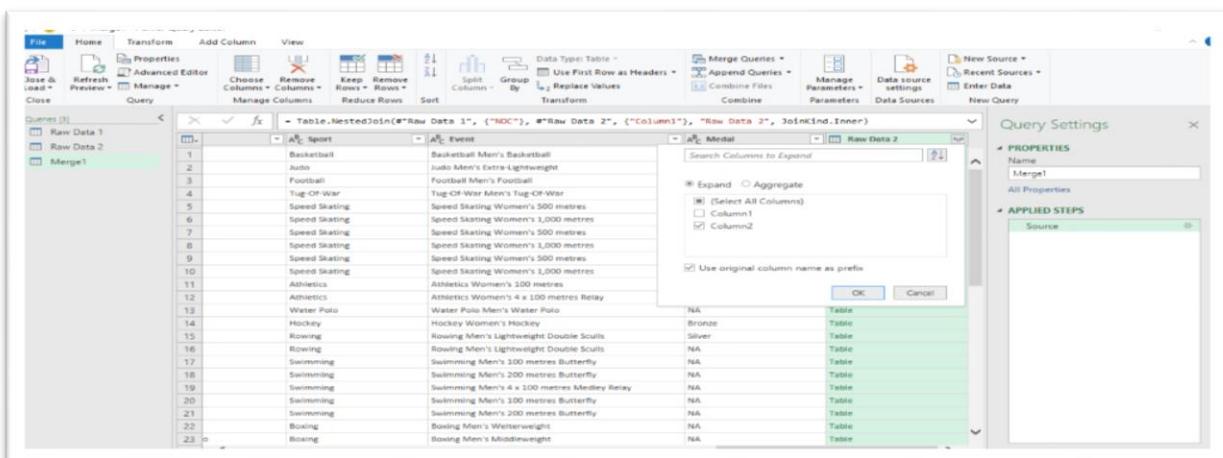
Step 4 – Now select the base table, merging table, comparing column and other necessary inputs.

Table 4.9 – Merging Tables



Step 5 – Now select the columns we want to see in the merge table.

Table 4.10 – Selecting Columns to be Included in Merged Table



Now that we have the desired data, we can finally load it into excel workbook.

Load

When we have the desired data, we can load it into the excel.

Table 4.11 – Loading Data in Excel



This is the data we get after extracting, transforming, and merging the two data sets

Table 4.12 – Data Set After Transforming and Loading

| A | B | C | D | E | F | G | H | I | J | L | M | N | O | P | |
|----|-----------------------------|-----|-----|--------|--------|------------------|-----|-------------|-------------|-------------|----------------|-------------------|---------------|-------|-------|
| ID | Name | Sex | Age | Height | Weight | Team | NOC | Region | Games | Year | Season | City | Sport | Event | Medal |
| 1 | 2 Aijiang | M | 24 | 180 | | 80 China | CHN | China | 1992 Summer | 1992 Summer | Barcelona | Basketball | Basketball | M | NA |
| 2 | 2 Lamusi | M | 23 | 170 | | 60 China | CHN | China | 2012 Summer | 2012 Summer | London | Judo | Judo | Men's | NA |
| 3 | Gunnar Nielsen Aaby | M | 24 | NA | NA | Denmark | DEN | Denmark | 1920 Summer | 1920 Summer | Antwerpen | Football | Football | Men | NA |
| 4 | Edgar Lindenau Aabye | M | 34 | NA | NA | Denmark/Sweden | DEN | Denmark | 1900 Summer | 1900 Summer | Paris | Tug-Of-War | Tug-Of-War | Gold | |
| 5 | Christine Jacoba Aafit | F | 21 | 185 | | 82 Netherlands | NED | Netherlands | 1988 Winter | 1988 Winter | Calgary | Speed Skating | Speed Skating | NA | |
| 5 | Christine Jacoba Aafit | F | 21 | 185 | | 82 Netherlands | NED | Netherlands | 1988 Winter | 1988 Winter | Calgary | Speed Skating | Speed Skating | NA | |
| 5 | Christine Jacoba Aafit | F | 25 | 185 | | 82 Netherlands | NED | Netherlands | 1992 Winter | 1992 Winter | Albertville | Speed Skating | Speed Skating | NA | |
| 5 | Christine Jacoba Aafit | F | 25 | 185 | | 82 Netherlands | NED | Netherlands | 1992 Winter | 1992 Winter | Albertville | Speed Skating | Speed Skating | NA | |
| 5 | Christine Jacoba Aafit | F | 27 | 185 | | 82 Netherlands | NED | Netherlands | 1994 Winter | 1994 Winter | Lillehamer | Speed Skating | Speed Skating | NA | |
| 5 | Christine Jacoba Aafit | F | 27 | 185 | | 82 Netherlands | NED | Netherlands | 1994 Winter | 1994 Winter | Lillehamer | Speed Skating | Speed Skating | NA | |
| 6 | Per Knut Aaland | M | 31 | 188 | | 75 United States | USA | USA | 1992 Winter | 1992 Winter | Albertville | Cross Country Ski | Cross Country | NA | |
| 6 | Per Knut Aaland | M | 31 | 188 | | 75 United States | USA | USA | 1992 Winter | 1992 Winter | Albertville | Cross Country Ski | Cross Country | NA | |
| 6 | Per Knut Aaland | M | 31 | 188 | | 75 United States | USA | USA | 1992 Winter | 1992 Winter | Albertville | Cross Country Ski | Cross Country | NA | |
| 6 | Per Knut Aaland | M | 31 | 188 | | 75 United States | USA | USA | 1992 Winter | 1992 Winter | Albertville | Cross Country Ski | Cross Country | NA | |
| 6 | Per Knut Aaland | M | 33 | 188 | | 75 United States | USA | USA | 1994 Winter | 1994 Winter | Lillehamer | Cross Country Ski | Cross Country | NA | |
| 7 | Per Knut Aaland | M | 33 | 188 | | 75 United States | USA | USA | 1994 Winter | 1994 Winter | Lillehamer | Cross Country Ski | Cross Country | NA | |
| 8 | Per Knut Aaland | M | 33 | 188 | | 75 United States | USA | USA | 1994 Winter | 1994 Winter | Lillehamer | Cross Country Ski | Cross Country | NA | |
| 9 | Per Knut Aaland | M | 33 | 188 | | 75 United States | USA | USA | 1994 Winter | 1994 Winter | Lillehamer | Cross Country Ski | Cross Country | NA | |
| 0 | 7 John Aalberg | M | 31 | 183 | | 72 United States | USA | USA | 1992 Winter | 1992 Winter | Albertville | Cross Country Ski | Cross Country | NA | |
| 1 | 7 John Aalberg | M | 31 | 183 | | 72 United States | USA | USA | 1992 Winter | 1992 Winter | Albertville | Cross Country Ski | Cross Country | NA | |
| 2 | 7 John Aalberg | M | 31 | 183 | | 72 United States | USA | USA | 1992 Winter | 1992 Winter | Albertville | Cross Country Ski | Cross Country | NA | |
| 3 | 7 John Aalberg | M | 31 | 183 | | 72 United States | USA | USA | 1992 Winter | 1992 Winter | Albertville | Cross Country Ski | Cross Country | NA | |
| 4 | 7 John Aalberg | M | 33 | 183 | | 72 United States | USA | USA | 1994 Winter | 1994 Winter | Lillehamer | Cross Country Ski | Cross Country | NA | |
| 5 | 7 John Aalberg | M | 33 | 183 | | 72 United States | USA | USA | 1994 Winter | 1994 Winter | Lillehamer | Cross Country Ski | Cross Country | NA | |
| 6 | 7 John Aalberg | M | 33 | 183 | | 72 United States | USA | USA | 1994 Winter | 1994 Winter | Lillehamer | Cross Country Ski | Cross Country | NA | |
| 7 | 7 John Aalberg | M | 33 | 183 | | 72 United States | USA | USA | 1994 Winter | 1994 Winter | Lillehamer | Cross Country Ski | Cross Country | NA | |
| 8 | 8 Cornelia "Cor" Aaltonen | F | 18 | 165 | NA | Netherlands | NED | Netherlands | 1932 Summer | 1932 Summer | Los Angeles | Athletics | Athletics | Wo | NA |
| 9 | 8 Cornelia "Cor" Aaltonen | F | 18 | 168 | NA | Netherlands | NED | Netherlands | 1932 Summer | 1932 Summer | Los Angeles | Athletics | Athletics | Wo | NA |
| 0 | 9 Antti Sami Aaltonen | M | 26 | 186 | | 96 Finland | FIN | Finland | 2002 Winter | 2002 Winter | Salt Lake City | Ice Hockey | Ice Hockey | M | NA |
| 1 | 10 Einar Ferdinand "Eina" M | M | 26 | NA | NA | Finland | FIN | Finland | 1952 Summer | 1952 Summer | Helsinki | Swimming | Swimming | M | NA |
| 2 | 11 Jorma Ilmari Aaltonen | M | 22 | 182 | | 76.5 Finland | FIN | Finland | 1980 Winter | 1980 Winter | Lake Placid | Cross Country Ski | Cross Country | NA | |
| 3 | 12 Jyri Tapani Aaltonen | M | 31 | 172 | | 70 Finland | FIN | Finland | 2000 Summer | 2000 Summer | Sydney | Badminton | Badminton | NA | |
| 4 | 13 Minna Maarit Aaltonen | F | 30 | 159 | | 55.5 Finland | FIN | Finland | 1996 Summer | 1996 Summer | Atlanta | Sailing | Sailing | Wom | NA |
| 5 | 13 Minna Maarit Aaltonen | F | 34 | 159 | | 55.5 Finland | FIN | Finland | 2000 Summer | 2000 Summer | Sydney | Sailing | Sailing | Wom | NA |
| 6 | 14 Pirjo Hannele Aaltonen | F | 32 | 171 | | 65 Finland | FIN | Finland | 1994 Winter | 1994 Winter | Lillehamer | Biathlon | Biathlon | Wo | NA |

But the resultant still has some inconsistencies.

Like NA values in few cells, and it still has few columns which I don't want to use, so it will be better to modify and eliminate the inconsistent data.

Transform 2.0

Step 1 – Deleting the unwanted columns.

Table 4.13 – Deleting Columns

A screenshot of Microsoft Excel showing a context menu open over a table. The menu is triggered by right-clicking on the header cell of column G, which contains the text 'NOC'. The 'Delete' option is highlighted with a red circle. Other options visible in the menu include 'Cut', 'Copy', 'Paste Options...', 'Paste Special...', 'Insert', 'Clear Contents', 'Format Cells...', 'Column Width...', 'Hide', and 'Unhide'. The main Excel ribbon and toolbar are visible at the top, and the table data is shown in the background.

Step 2 – Renaming the columns

Table 4.14 – Renaming Columns

A screenshot of Microsoft Excel showing the same table as in the previous image, but with a change. The column header 'NOC' has been renamed to 'Country'. This change is circled with a red marker. The rest of the table data and the context menu are identical to the previous screenshot.

Step 3 – Deleting the rows with null and unwanted values.

3.1 -> Apply filter

Table 4.15 – Applying Filter

A screenshot of Microsoft Excel showing a table of data. The 'Home' tab is selected. In the top right corner, there is a 'Filter' icon (a funnel symbol) which is circled in red. The table has columns labeled Name, Sex, Age, Height, Weight, Team, NOC, Country, Games, Year, Season, City, Sport, and Event. The data includes various athletes from different countries and sports.

3.2 -> Select the column which contains values that need to be deleted. Then unselect the value to be deleted.

Table 4.16 – Filtering Out Unwanted Values

A screenshot of Microsoft Excel showing the 'Filter' dialog box for the 'Height' column. The 'Height' column is circled in red. The dialog box shows a list of values: 216, 217, 218, 219, 220, 221, 223, 225, and NA. The 'NA' option is checked. At the bottom of the dialog box, the 'OK' button is highlighted with a red circle. The background shows the same table as in Table 4.15.

3.3 -> Repeat the process for all the columns in which we want to delete the unwanted values.

3.4 -> When done, select the entire sheet (ctrl + A), copy entire sheet, create a new sheet, and paste.

Table 4.17 – Filtering Out Unwanted Values

The screenshot shows a Microsoft Excel spreadsheet titled "Raw Data Combined". A context menu is open over a row of data, with the "Copy" option circled in red. The text "CTRL + A" is overlaid in red at the bottom right of the menu. The data includes columns for Name, Sex, Age, Height, Weight, Team, NOC, Country, Games, Year, Season, City, Sport, Event, and Medal.

The screenshot shows the same Excel spreadsheet after the data has been copied and pasted into a new sheet. The data remains identical to the original sheet, with all columns and rows present. The text "CTRL + V" is overlaid in red at the bottom right of the spreadsheet area.

Now we have deleted all the unnecessary things from our data.

Step 4 – It will be better to arrange data in cells properly and apply style.

Table 4.18 – Aligning Data in Cells

| Name | Sex | Age | Height | Weight | Team | Country | Games | Year | Session | City | Sport | Event | Medal |
|-------------------------|-----|-----|--------|--------|---------------|-----------------|-------------|------|---------|-------------|----------------------|------------------------|-------|
| A Dijiang | M | 24 | 180 | 80 | China | CHN China | 1992 Summer | 1992 | Summer | Barcelona | Basketball | Basketball Men's Bas- | NA |
| A Lamusi | M | 23 | 170 | 60 | China | CHN China | 2012 Summer | 2012 | Summer | London | Judo | Judo Men's Extra-Ligh- | NA |
| Christine Jacoba Aafink | F | 21 | 185 | 82 | Netherlands | NED Netherlands | 1988 Winter | 1988 | Winter | Calgary | Speed Skating | Speed Skating Wome- | NA |
| Christine Jacoba Aafink | F | 21 | 185 | 82 | Netherlands | NED Netherlands | 1988 Winter | 1988 | Winter | Calgary | Speed Skating | Speed Skating Wome- | NA |
| Christine Jacoba Aafink | F | 25 | 185 | 82 | Netherlands | NED Netherlands | 1992 Winter | 1992 | Winter | Albertville | Speed Skating | Speed Skating Wome- | NA |
| Christine Jacoba Aafink | F | 25 | 185 | 82 | Netherlands | NED Netherlands | 1992 Winter | 1992 | Winter | Albertville | Speed Skating | Speed Skating Wome- | NA |
| Christine Jacoba Aafink | F | 27 | 185 | 82 | Netherlands | NED Netherlands | 1994 Winter | 1994 | Winter | Lillehammer | Speed Skating | Speed Skating Wome- | NA |
| Christine Jacoba Aafink | F | 27 | 185 | 82 | Netherlands | NED Netherlands | 1994 Winter | 1994 | Winter | Lillehammer | Speed Skating | Speed Skating Wome- | NA |
| Per Knut Aaland | M | 31 | 188 | 75 | United States | USA USA | 1992 Winter | 1992 | Winter | Albertville | Cross Country Skiing | Cross Country Skiing | NA |
| Per Knut Aaland | M | 31 | 188 | 75 | United States | USA USA | 1992 Winter | 1992 | Winter | Albertville | Cross Country Skiing | Cross Country Skiing | NA |
| Per Knut Aaland | M | 31 | 188 | 75 | United States | USA USA | 1992 Winter | 1992 | Winter | Albertville | Cross Country Skiing | Cross Country Skiing | NA |
| Per Knut Aaland | M | 31 | 188 | 75 | United States | USA USA | 1992 Winter | 1992 | Winter | Albertville | Cross Country Skiing | Cross Country Skiing | NA |
| Per Knut Aaland | M | 33 | 188 | 75 | United States | USA USA | 1994 Winter | 1994 | Winter | Lillehammer | Cross Country Skiing | Cross Country Skiing | NA |
| Per Knut Aaland | M | 33 | 188 | 75 | United States | USA USA | 1994 Winter | 1994 | Winter | Lillehammer | Cross Country Skiing | Cross Country Skiing | NA |
| Per Knut Aaland | M | 33 | 188 | 75 | United States | USA USA | 1994 Winter | 1994 | Winter | Lillehammer | Cross Country Skiing | Cross Country Skiing | NA |
| John Aalberg | M | 31 | 183 | 72 | United States | USA USA | 1992 Winter | 1992 | Winter | Albertville | Cross Country Skiing | Cross Country Skiing | NA |
| John Aalberg | M | 31 | 183 | 72 | United States | USA USA | 1992 Winter | 1992 | Winter | Albertville | Cross Country Skiing | Cross Country Skiing | NA |
| John Aalberg | M | 31 | 183 | 72 | United States | USA USA | 1992 Winter | 1992 | Winter | Albertville | Cross Country Skiing | Cross Country Skiing | NA |
| John Aalberg | M | 33 | 183 | 72 | United States | USA USA | 1994 Winter | 1994 | Winter | Lillehammer | Cross Country Skiing | Cross Country Skiing | NA |
| John Aalberg | M | 33 | 183 | 72 | United States | USA USA | 1994 Winter | 1994 | Winter | Lillehammer | Cross Country Skiing | Cross Country Skiing | NA |
| John Aalberg | M | 33 | 183 | 72 | United States | USA USA | 1994 Winter | 1994 | Winter | Lillehammer | Cross Country Skiing | Cross Country Skiing | NA |

Table 4.19 – Applying Style to Table

| Name | Sex | Age | Height | Weight | Team | Country | Games | Year | Season | City | Sport | Event | Medal |
|------------------------|-----|-----|--------|--------|----------------------|---------------|-------------|------|--------|-----------|------------------|------------------------|--------|
| A Dijiang | M | 24 | 180 | 80 | China | CHN China | 1992 Summer | 1992 | Summer | Barcelona | Basketball | Basketball Men's Bas- | NA |
| A Lamusi | M | 23 | 170 | 60 | China | CHN China | 2012 Summer | 2012 | Summer | London | Judo | Judo Men's Extra-Ligh- | NA |
| Aanantha Sambu Maya | M | 26 | 175 | 71 | Malaysia | MAS Malaysia | 1992 Summer | 1992 | Summer | Barcelona | Hockey | Hockey Men's Hoc | NA |
| Abdul Razzaq | M | 26 | 178 | 70 | Iraq | IRQ Iraq | 1960 Summer | 1960 | Summer | Roma | Athletics | Athletics Men's Lc | NA |
| Abdul Razzaq | M | 26 | 178 | 70 | Iraq | IRQ Iraq | 1960 Summer | 1960 | Summer | Roma | Athletics | Athletics Men's Tr | NA |
| Albert | M | 26 | 175 | 71 | Union des Socits Fr | FRA France | 1900 Summer | 1900 | Summer | Paris | Rugby | Rugby Men's Rugt | Gold |
| Brun | F | 26 | 175 | 71 | France | FRA France | 1900 Summer | 1900 | Summer | Paris | Golf | Golf Women's Ind | NA |
| Buydens | M | 26 | 175 | 71 | Belgium | BEL Belgium | 1924 Summer | 1924 | Summer | Paris | Swimming | Swimming Men's | NA |
| Charles Six | M | 26 | 175 | 71 | France | FRA France | 1928 Summer | 1928 | Summer | Amsterdam | Hockey | Hockey Men's Hoc | NA |
| Christory | M | 26 | 175 | 71 | France | FRA France | 1924 Summer | 1924 | Summer | Paris | Art Competitions | Art Competitions | NA |
| Darnis | M | 26 | 175 | 71 | France | FRA France | 1900 Summer | 1900 | Summer | Paris | Shooting | Shooting Men's Tr | NA |
| de Romigny | M | 26 | 175 | 71 | France | FRA France | 1900 Summer | 1900 | Summer | Paris | Fencing | Fencing Men's ep | NA |
| Dubois | M | 26 | 175 | 71 | Gitana-21 | FRA France | 1900 Summer | 1900 | Summer | Paris | Sailing | Sailing Mixed Ope | NA |
| Dubois | M | 26 | 175 | 71 | Gitana-2 | FRA France | 1900 Summer | 1900 | Summer | Paris | Sailing | Sailing Mixed 3-1C | Bronze |
| Dubois | M | 26 | 175 | 71 | Gitana-2 | FRA France | 1900 Summer | 1900 | Summer | Paris | Sailing | Sailing Mixed 3-1C | Silver |
| Duponcheel | M | 26 | 175 | 71 | France | FRA France | 1908 Summer | 1908 | Summer | London | Gymnastics | Gymnastics Men's | NA |
| E. Page | M | 26 | 175 | 71 | Great Britain | GBR UK | 1920 Summer | 1920 | Summer | Antwerpen | Gymnastics | Gymnastics Men's | NA |
| efik | M | 26 | 175 | 71 | Turkey | TUR Turkey | 1928 Summer | 1928 | Summer | Amsterdam | Wrestling | Wrestling Men's L | NA |
| G. Chagale | M | 26 | 175 | 71 | India | IND India | 1948 Summer | 1948 | Summer | London | Art Competitions | Art Competitions | NA |
| Germaine Golding (Reg | F | 26 | 175 | 71 | France | FRA France | 1924 Summer | 1924 | Summer | Paris | Tennis | Tennis Women's S | NA |
| Germaine Golding (Reg | F | 26 | 175 | 71 | France-1 | FRA France | 1924 Summer | 1924 | Summer | Paris | Tennis | Tennis Women's I | NA |
| Godinat | M | 26 | 175 | 71 | France | FRA France | 1924 Summer | 1924 | Summer | Paris | Art Competitions | Art Competitions | NA |
| Hurtado Vargas | M | 26 | 175 | 71 | Chile | CHI Chile | 1948 Summer | 1948 | Summer | London | Water Polo | Water Polo Men's | NA |
| Hussain Ahmed | M | 26 | 175 | 71 | India | IND India | 1956 Summer | 1956 | Summer | Melbourne | Football | Football Men's Fo | NA |
| J. J. Fridt | M | 26 | 175 | 71 | Ubu | BEL Belgium | 1928 Summer | 1928 | Summer | Amsterdam | Sailing | Sailing Mixed 6 | NA |
| J. Tyrone Benildus "Be | M | 27 | 179 | 70 | Sri Lanka | SRI Sri Lanka | 1996 Summer | 1996 | Summer | Atlanta | Athletics | Athletics Men's Lc | NA |
| Joshua "Josh" West | M | 27 | 207 | 105 | Great Britain | GBR UK | 2004 Summer | 2004 | Summer | Athina | Rowing | Rowing Men's Cox | NA |
| Joshua "Josh" West | M | 31 | 207 | 105 | Great Britain | GBR UK | 2008 Summer | 2008 | Summer | Beijing | Rowing | Rowing Men's Cox | Silver |
| Kordonis | M | 26 | 175 | 71 | Phalainis ton Thorik | GRE Greece | 1906 Summer | 1906 | Summer | Athina | Rowing | Rowing Men's 6-N | NA |
| Laffen | M | 26 | 175 | 71 | Unknown | UNK Unknown | 1912 Summer | 1912 | Summer | Stockholm | Art Competitions | Art Competitions | NA |
| Lafontaine | M | 26 | 175 | 71 | France | FRA France | 1900 Summer | 1900 | Summer | Paris | Fencing | Fencing Men's ep | NA |
| Lambrecht, Jr. | M | 26 | 175 | 71 | Belgium | BEL Belgium | 1928 Summer | 1928 | Summer | Amsterdam | Rowing | Rowing Men's Cox | NA |

Final Clean Data Set

Table 4.20 – Clean Data Set

| Name | Sex | Age | Height | Weight | Team | Country | Games | Year | Season | City | Sport | Event | Medal |
|------------------------|-----|-----|--------|--------|----------------------|---------------|-------------|------|--------|-----------|------------------|------------------------|--------|
| Dijiang | M | 24 | 180 | 80 | China | CHN China | 1992 Summer | 1992 | Summer | Barcelona | Basketball | Basketball Men's I | NA |
| Lamusi | M | 23 | 170 | 60 | China | CHN China | 2012 Summer | 2012 | Summer | London | Judo | Judo Men's Extra-Ligh- | NA |
| Aanantha Sambu Maya | M | 26 | 175 | 71 | Malaysia | MAS Malaysia | 1992 Summer | 1992 | Summer | Barcelona | Hockey | Hockey Men's Hoc | NA |
| Abdul Razzaq | M | 26 | 178 | 70 | Iraq | IRQ Iraq | 1960 Summer | 1960 | Summer | Roma | Athletics | Athletics Men's Lc | NA |
| Abdul Razzaq | M | 26 | 178 | 70 | Iraq | IRQ Iraq | 1960 Summer | 1960 | Summer | Roma | Athletics | Athletics Men's Tr | NA |
| Albert | M | 26 | 175 | 71 | Union des Socits Fr | FRA France | 1900 Summer | 1900 | Summer | Paris | Rugby | Rugby Men's Rugt | Gold |
| Brun | F | 26 | 175 | 71 | France | FRA France | 1900 Summer | 1900 | Summer | Paris | Golf | Golf Women's Ind | NA |
| Buydens | M | 26 | 175 | 71 | Belgium | BEL Belgium | 1924 Summer | 1924 | Summer | Paris | Swimming | Swimming Men's | NA |
| Charles Six | M | 26 | 175 | 71 | France | FRA France | 1928 Summer | 1928 | Summer | Amsterdam | Hockey | Hockey Men's Hoc | NA |
| Christory | M | 26 | 175 | 71 | France | FRA France | 1924 Summer | 1924 | Summer | Paris | Art Competitions | Art Competitions | NA |
| Darnis | M | 26 | 175 | 71 | France | FRA France | 1900 Summer | 1900 | Summer | Paris | Shooting | Shooting Men's Tr | NA |
| de Romigny | M | 26 | 175 | 71 | France | FRA France | 1900 Summer | 1900 | Summer | Paris | Fencing | Fencing Men's ep | NA |
| Dubois | M | 26 | 175 | 71 | Gitana-21 | FRA France | 1900 Summer | 1900 | Summer | Paris | Sailing | Sailing Mixed Ope | NA |
| Dubois | M | 26 | 175 | 71 | Gitana-2 | FRA France | 1900 Summer | 1900 | Summer | Paris | Sailing | Sailing Mixed 3-1C | Bronze |
| Dubois | M | 26 | 175 | 71 | Gitana-2 | FRA France | 1900 Summer | 1900 | Summer | Paris | Sailing | Sailing Mixed 3-1C | Silver |
| Duponcheel | M | 26 | 175 | 71 | France | FRA France | 1908 Summer | 1908 | Summer | London | Gymnastics | Gymnastics Men's | NA |
| E. Page | M | 26 | 175 | 71 | Great Britain | GBR UK | 1920 Summer | 1920 | Summer | Antwerpen | Gymnastics | Gymnastics Men's | NA |
| efik | M | 26 | 175 | 71 | Turkey | TUR Turkey | 1928 Summer | 1928 | Summer | Amsterdam | Wrestling | Wrestling Men's L | NA |
| G. Chagale | M | 26 | 175 | 71 | India | IND India | 1948 Summer | 1948 | Summer | London | Art Competitions | Art Competitions | NA |
| Germaine Golding (Reg | F | 26 | 175 | 71 | France | FRA France | 1924 Summer | 1924 | Summer | Paris | Tennis | Tennis Women's S | NA |
| Germaine Golding (Reg | F | 26 | 175 | 71 | France-1 | FRA France | 1924 Summer | 1924 | Summer | Paris | Tennis | Tennis Women's I | NA |
| Godinat | M | 26 | 175 | 71 | France | FRA France | 1924 Summer | 1924 | Summer | Paris | Art Competitions | Art Competitions | NA |
| Hurtado Vargas | M | 26 | 175 | 71 | Chile | CHI Chile | 1948 Summer | 1948 | Summer | London | Water Polo | Water Polo Men's | NA |
| Hussain Ahmed | M | 26 | 175 | 71 | India | IND India | 1956 Summer | 1956 | Summer | Melbourne | Football | Football Men's Fo | NA |
| J. J. Fridt | M | 26 | 175 | 71 | Ubu | BEL Belgium | 1928 Summer | 1928 | Summer | Amsterdam | Sailing | Sailing Mixed 6 | NA |
| J. Tyrone Benildus "Be | M | 27 | 179 | 70 | Sri Lanka | SRI Sri Lanka | 1996 Summer | 1996 | Summer | Atlanta | Athletics | Athletics Men's Lc | NA |
| Joshua "Josh" West | M | 27 | 207 | 105 | Great Britain | GBR UK | 2004 Summer | 2004 | Summer | Athina | Rowing | Rowing Men's Cox | NA |
| Joshua "Josh" West | M | 31 | 207 | 105 | Great Britain | GBR UK | 2008 Summer | 2008 | Summer | Beijing | Rowing | Rowing Men's Cox | Silver |
| Kordonis | M | 26 | 175 | 71 | Phalainis ton Thorik | GRE Greece | 1906 Summer | 1906 | Summer | Athina | Rowing | Rowing Men's 6-N | NA |
| Laffen | M | 26 | 175 | 71 | Unknown | UNK Unknown | 1912 Summer | 1912 | Summer | Stockholm | Art Competitions | Art Competitions | NA |
| Lafontaine | M | 26 | 175 | 71 | France | FRA France | 1900 Summer | 1900 | Summer | Paris | Fencing | Fencing Men's ep | NA |
| Lambrecht, Jr. | M | 26 | 175 | 71 | Belgium | BEL Belgium | 1928 Summer | 1928 | Summer | Amsterdam | Rowing | Rowing Men's Cox | NA |

Chapter 5 - Data Analysis

Objective 1 – Displaying Number of Participants

Description – The objective is to display the count of number of participants and winners, both male and female separately (of different games, years, age, and many other).

Requirements –

- 4 Pivot Tables
- Divide (/) and Subtract (-) Formula, Get Pivot Data Formula
- Doughnut Charts (Customized Pie Chart + Text Box)
- Many Slicers

Specifications -

- Pivot Table 1 – To count total males, females, and participants

Table 5.1 – Objective 1 - Pivot Table 1

The screenshot shows the Microsoft Excel interface with a PivotTable Fields dialog box open on the right side of the screen. The dialog box is titled "PivotTable Fields" and has a section "Choose fields to add to report:" with a search bar and a list of fields: Name, Sex, Age, Height, Weight, Team, and NOC. Below this is a section "Drag fields between areas below:" with "Filters" and "Columns" sections. Under "Rows", "Sex" is selected. Under "Values", "Count of Sex" is selected. On the left, a PivotTable is displayed with the following data:

| Sex | Count of Sex |
|-------------|--------------|
| F | 74522 |
| M | 196594 |
| Grand Total | 271116 |

At the bottom, there is a summary table:

| | |
|-----------------------------|--------|
| Total Participants = | 271116 |
| Total Male Participants = | 196594 |
| Total Female Participants = | 74522 |

- Pivot Table 2 – To count total medals won

Table 5.2 – Objective 1 - Pivot Table 2

The screenshot shows a PivotTable and its corresponding PivotTable Fields pane.

PivotTable Fields pane:

- Choose fields to add to report:
- Search: Name, Sex, Age, Height, Weight, Team, NOC
- Drag fields between areas below:
- Filters: None
- Columns: None
- Rows: Medal
- Values: Count of Medal

PivotTable Data:

| Medal | Count of Medal |
|-------------|----------------|
| Bronze | 13295 |
| Gold | 13372 |
| Silver | 13116 |
| Grand Total | 39783 |

Calculated Totals:

| | |
|---------------------------|-------|
| Total Medals Won = | 39783 |
| Total Gold Medals Won = | 13372 |
| Total Silver Medals Won = | 13116 |
| Total Bronze Medals Won = | 13295 |

- Pivot Table 3 – To count medals won by males

Table 5.3 – Objective 1 - Pivot Table 3

The screenshot shows a PivotTable and its corresponding PivotTable Fields pane, with the "Sex" filter set to "Males".

PivotTable Fields pane:

- Choose fields to add to report:
- Search
- Fields checked: Sex (highlighted in red)
- Fields uncheckable: Name, Age, Height, Weight, Team, NOC
- Drag fields between areas below:
- Filters: Sex (set to "Males")
- Columns: None
- Rows: Medal
- Values: Count of Medal

PivotTable Data:

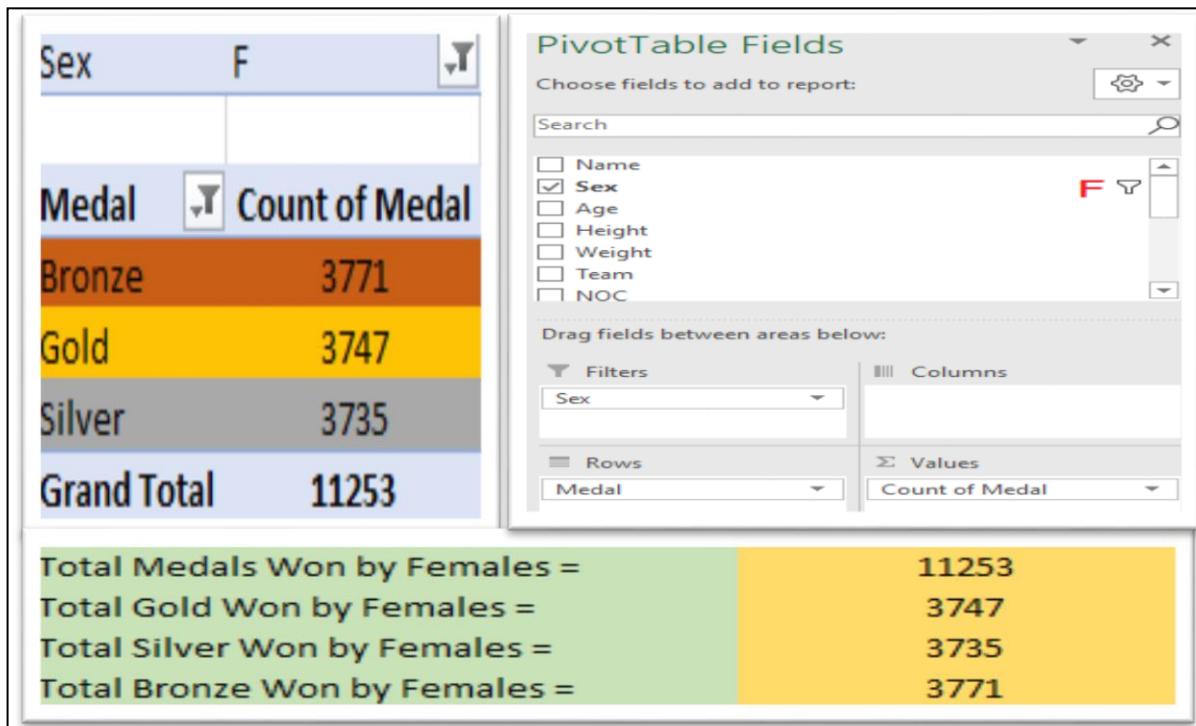
| Medal | Count of Medal |
|-------------|----------------|
| Bronze | 9524 |
| Gold | 9625 |
| Silver | 9381 |
| Grand Total | 28530 |

Calculated Totals:

| | |
|-----------------------------|-------|
| Total Medals Won by Males = | 28530 |
| Total Gold Won by Males = | 9625 |
| Total Silver Won by Males = | 9381 |
| Total Bronze Won by Males = | 9524 |

- Pivot Table 4 – To count medals won by females

Table 5.4 – Objective 1 - Pivot Table 4



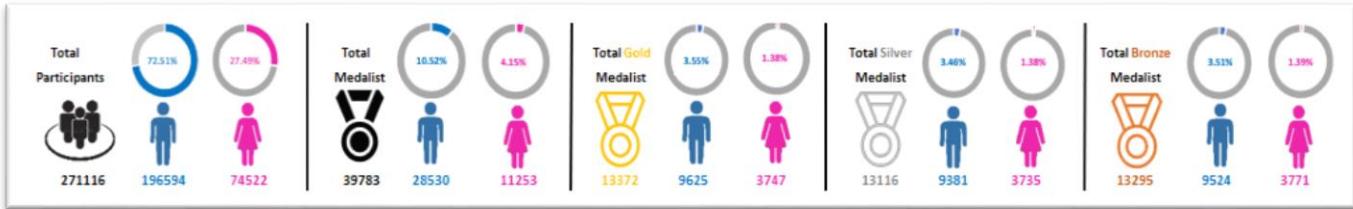
- Percentage Calculation – For Doughnut Chart

Table 5.5 – Objective 1 – Calculation for Doughnut Chart

| | | 100% Remaining |
|---|--------|----------------|
| Percentage of Male Participants = | 72.51% | 27.49% |
| Percentage of Female Participants = | 27.49% | 72.51% |
| Percentage of Medalists = | 14.67% | 85.33% |
| Percentage of Gold Medalist = | 4.93% | 95.07% |
| Percentage of Silver Medalists = | 4.84% | 95.16% |
| Percentage of Bronze Medalists - | 4.90% | 95.10% |
| Percenatage of Male Medalists = | 10.52% | 89.48% |
| Percenatage of Female Medalists = | 4.15% | 95.85% |
| Percentage of Male Gold Medalists = | 3.55% | 96.45% |
| Percentage of Male Silver Medalists = | 3.46% | 96.54% |
| Percentage of Male Bronze Medalists = | 3.51% | 96.49% |
| Percentage of Female Gold Medalists = | 1.38% | 98.62% |
| Percentage of Female Silver Medalists = | 1.38% | 98.62% |
| Percentage of Female Bronze Medalists = | 1.39% | 98.61% |

Result and Visualization –

Table 5.6 – Objective 1 Result



Objective 2 – Showing Best Performing Countries

Description – The objective is to display the best performing countries. Also, based on different sports, year, gender, and many other fields.

Requirements –

- Pivot Table
- Pivot Chart
- Many Slicers

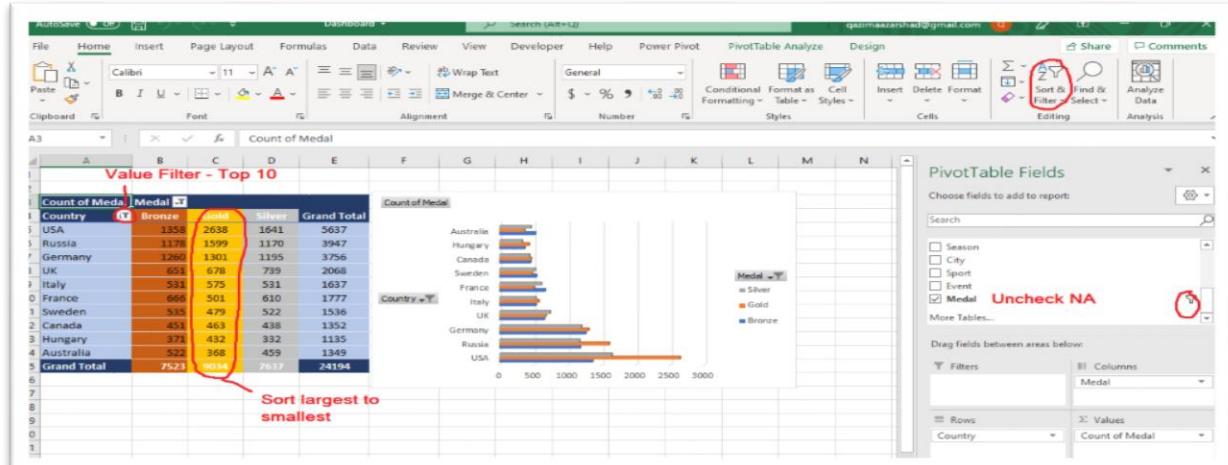
Specifications – To display a countries performance, In the pivot table fields add Country in the rows, and medals as column, and count of medal in the values column.

Uncheck NA option in the medals column and apply **Top 10 value filter** to display only the top 10 countries.

Also, apply **largest to smallest filter in gold medal column**, because medal determines the ranking.

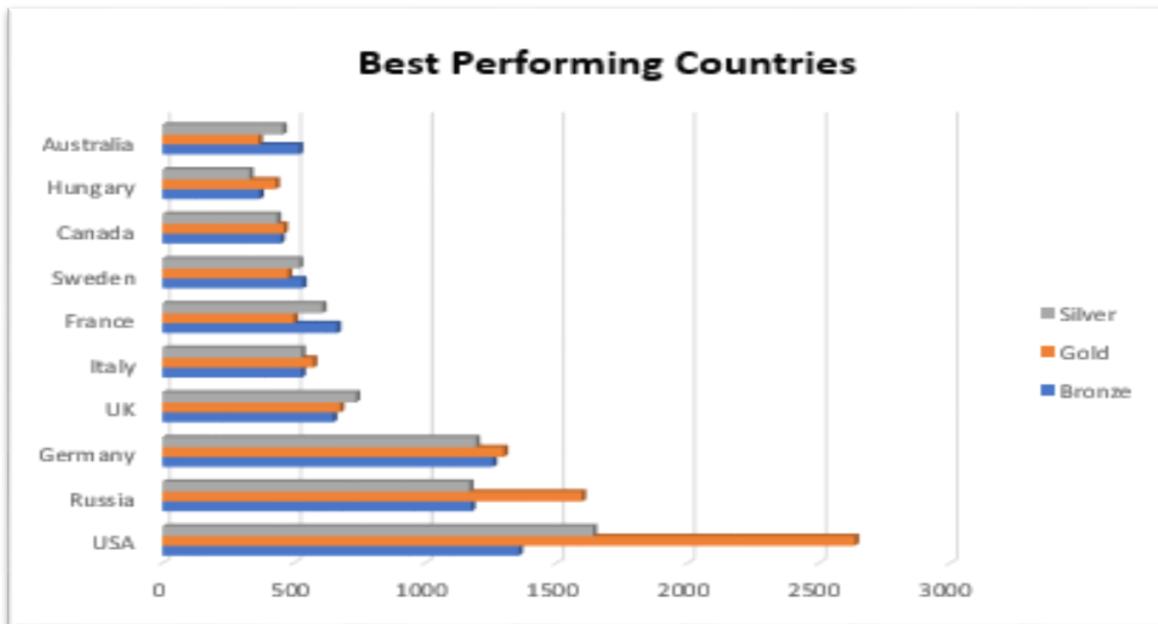
After all the steps, insert a column chart in the pivot table.

Table 5.7 – Objective 2 Pivot Table and Settings



Result and Visualization –

Table 5.8 – Objective 2 Result



Objective 3 – Displaying Top Olympic Medalists

Description – The objective is to display the best performing players. Also, based on different sports, year, gender, and many other fields.

Requirements –

- Pivot Table
- Pivot Chart
- Many Slicers

Specifications – To display a players performance, In the pivot table fields add Name in the rows, and medals as column, and Count of Medal in the values column.

Uncheck NA option in the medals column and apply **Top 10 value filter** to display only the top 10 players.

Also, apply **largest to smallest filter in gold medal column**, because medal determines the ranking.

After all the steps, insert a column chart in the pivot table.

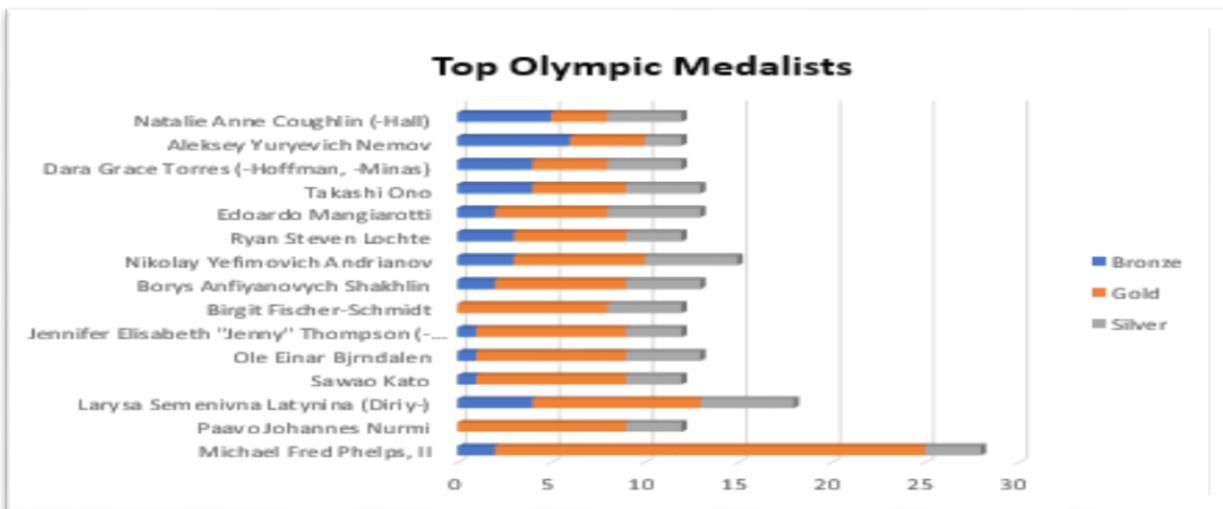
Then apply the required slicers.

Table 5.9 – Objective 3 Pivot Table and Settings

| Name | Bronze | Gold | Silver | Grand Total |
|---|-----------|-----------|------------|-------------|
| Michael Fred Phelps, II | 2 | 23 | 3 | 28 |
| Paavo Johannes Nurmi | 9 | 3 | 12 | 24 |
| Larysa Semenivna Latynina (Diriy-) | 4 | 9 | 5 | 18 |
| Sawao Kato | 1 | 8 | 3 | 12 |
| Ole Einar Bjørndalen | 1 | 8 | 4 | 13 |
| Jennifer Elisabeth "Jenny" Thompson (-Cumpelik) | 1 | 8 | 3 | 12 |
| Birgit Fischer-Schmidt | 8 | 4 | 4 | 12 |
| Borys Anfijanovich Shakhlin | 2 | 7 | 4 | 13 |
| Nikolay Yefimovich Andrianov | 3 | 7 | 5 | 15 |
| Ryan Steven Lochte | 3 | 6 | 3 | 12 |
| Edoardo Mangiarotti | 2 | 9 | 5 | 13 |
| Takashi Ono | 4 | 5 | 4 | 13 |
| Dara Grace Torres (-Hoffman, -Minas) | 4 | 4 | 4 | 12 |
| Aleksey Yuryevich Nemov | 6 | 4 | 2 | 12 |
| Natalie Anne Coughlin (-Hall) | 5 | 3 | 4 | 12 |
| Grand Total | 38 | 56 | 209 | |

Result and Visualization –

Table 5.10 – Objective 3 Result



Objective 4 – Male vs Female Performance Ratio

Description – The objective is to find the Male vs Female medal victory ratio. Also, based on sports, nation, year, season, and a lot more.

Requirements –

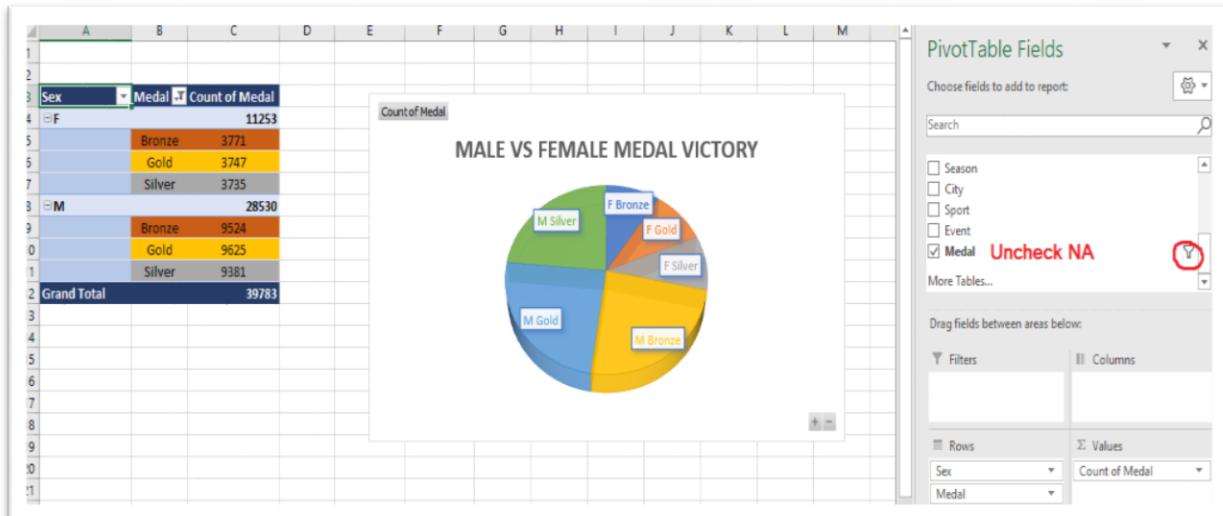
- Pivot Table
- Pivot Chart
- Many Slicers

Specifications – To display Male vs Female ratio, In the pivot table fields add Sex then Medal in the rows, and count of medal in the values column.

Uncheck NA option in the medals.

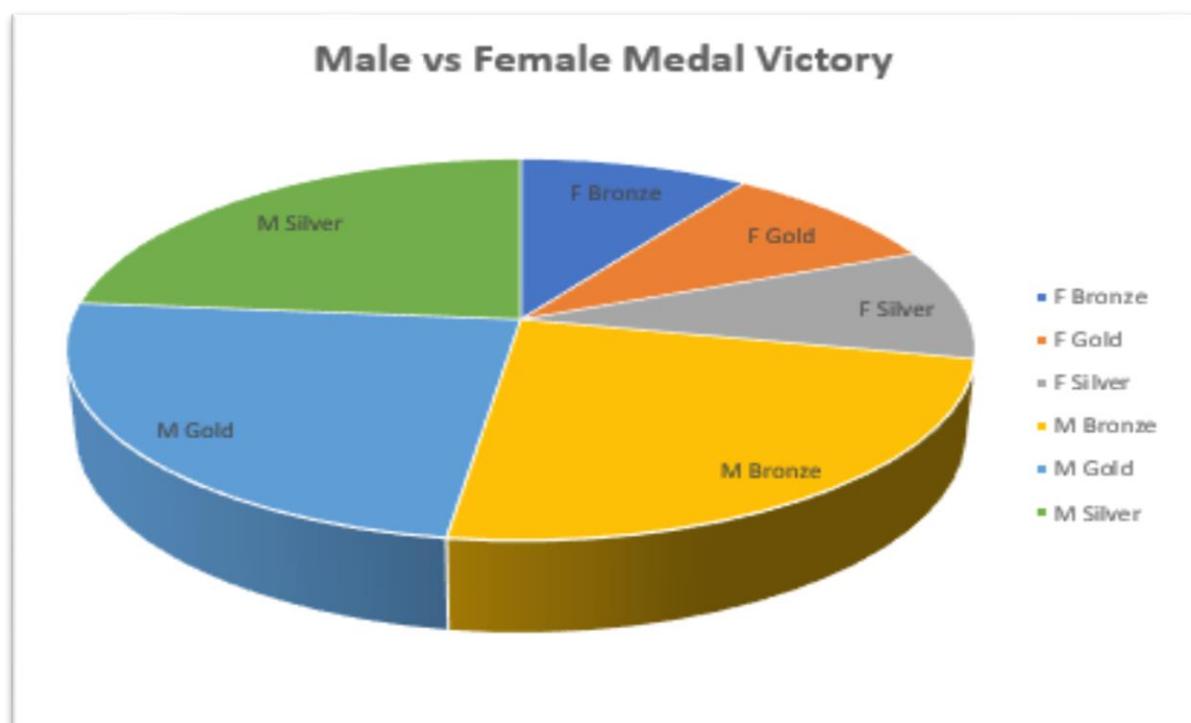
After all the steps, insert a pie chart in the pivot table.
Then apply the required slicers.

Table 5.11 – Objective 4 Pivot Table and Settings



Result and Visualization –

Table 5.12 – Objective 4 Result



Objective 5 – Show Most Popular Sports

Description – The objective is to display the sports which record highest participation. Also, with respect to different country, year, gender, and many other fields.

Requirements –

- Pivot Table
- Pivot Chart
- Many Slicers

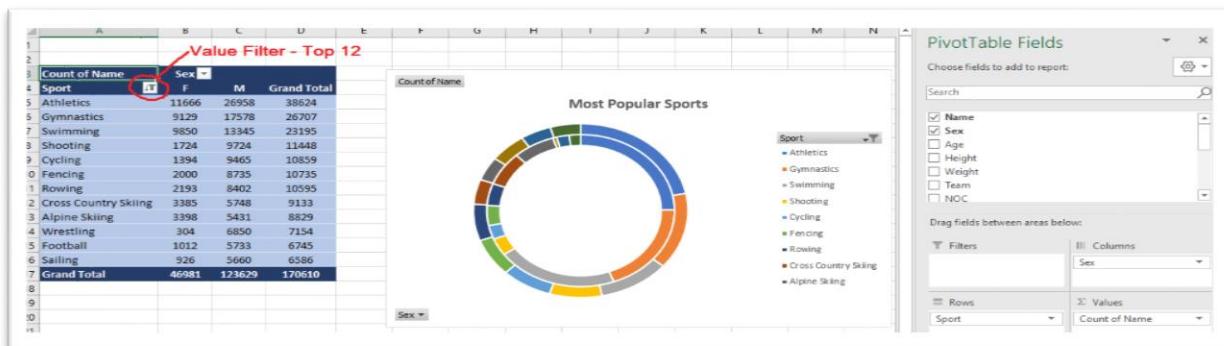
Specifications – To get sports with highest participation index, In the pivot table fields add Sport in the rows, and Sex as column, and Count of Name in the values column.

Apply **Top 10 value filter** and limit to 12 to display 12 most popular sports.

After all the steps, insert a Doughnut chart in the pivot table.

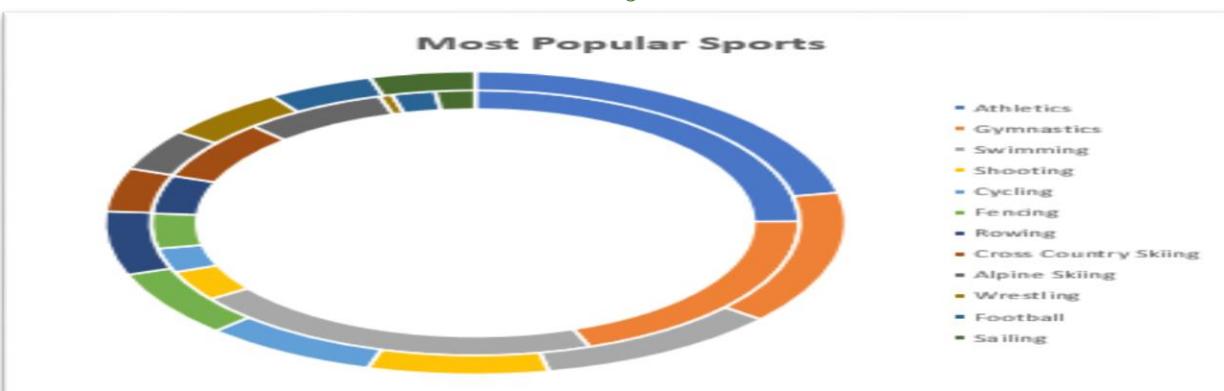
Then apply the required slicers.

Table 5.13 – Objective 5 Pivot Table and Settings



Result and Visualization –

Table 5.14 – Objective 5 Result



Objective 6 – Relation Between Medal Victory and Age

Description – The objective is to display the relationship and trend between medal victory and age. Also, for different sports, year, gender, and many other fields.

Requirements –

- Pivot Table
- Pivot Chart
- Many Slicers

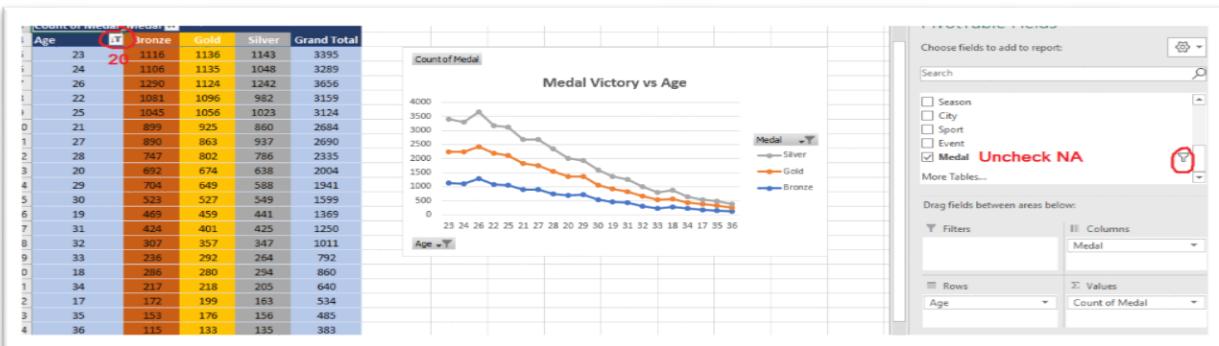
Specifications – To find the relationship between medal victory and age, In the pivot table fields add Age in the rows, and Medal in column, and Count of Medal in the values column.

Uncheck NA option in the medals column and apply **Top 20 value filter** to display only the stats of only top 20 ages.

After all the steps, insert a line chart in the pivot table.

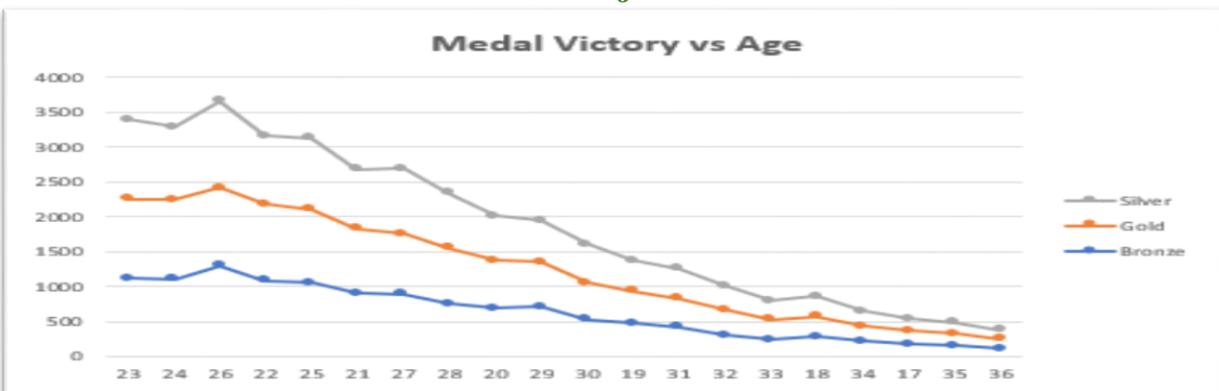
Then apply the required slicers.

Table 5.15 – Objective 6 Pivot Table and Settings



Result and Visualization –

Table 5.16 – Objective 6 Result



Objective 7 – Trends in Countries Performance in Years

Description – To display countries performance over the years. Also, in different sports, based on gender, and many other fields.

Requirements –

- Pivot Table
- Pivot Chart
- Many Slicers

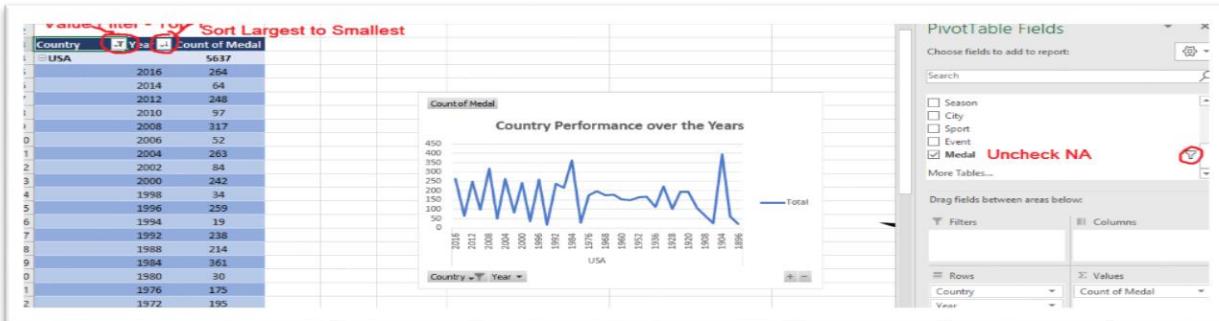
Specifications – To display a countries performance over the years, In the pivot table fields add Country in the rows then add Year, and Count of Medal in the values column.

Uncheck NA option in the medals column and apply **Top 1 value filter** to display only 1 country at a time.

Also, apply **largest to smallest filter in Age column**, so trend can be easily understood.

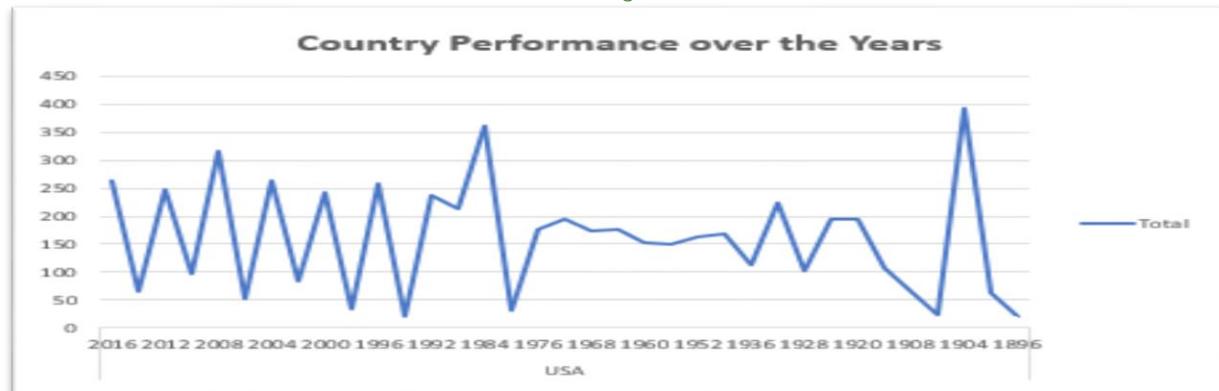
After all the steps, insert a line chart in the pivot table.
Then apply the required slicers.

Table 5.17 – Objective 7 Pivot Table and Settings



Result and Visualization –

Table 5.18 – Objective 7 Result



Objective 8 – Difference in Country Performance (Summer vs Winter) Olympics

Description – To show the difference in medal victory of a nation in Summer and Winter Olympics. Also, in different sports, gender-specific, and many other fields.

Requirements –

- Pivot Table
- Pivot Chart
- Many Slicers

Specifications – To show the difference in Summer and Winter Olympics performance of a country, In the pivot table fields add Country in the rows then add Season again in the rows, add Medal in columns, and Count of Medal in the values column.

Uncheck NA option in the medals column and apply **Top 1 value filter** in pivot table to display only 1 country at a time.
After all the steps, insert a bar chart in the pivot table.
Then apply the required slicers.

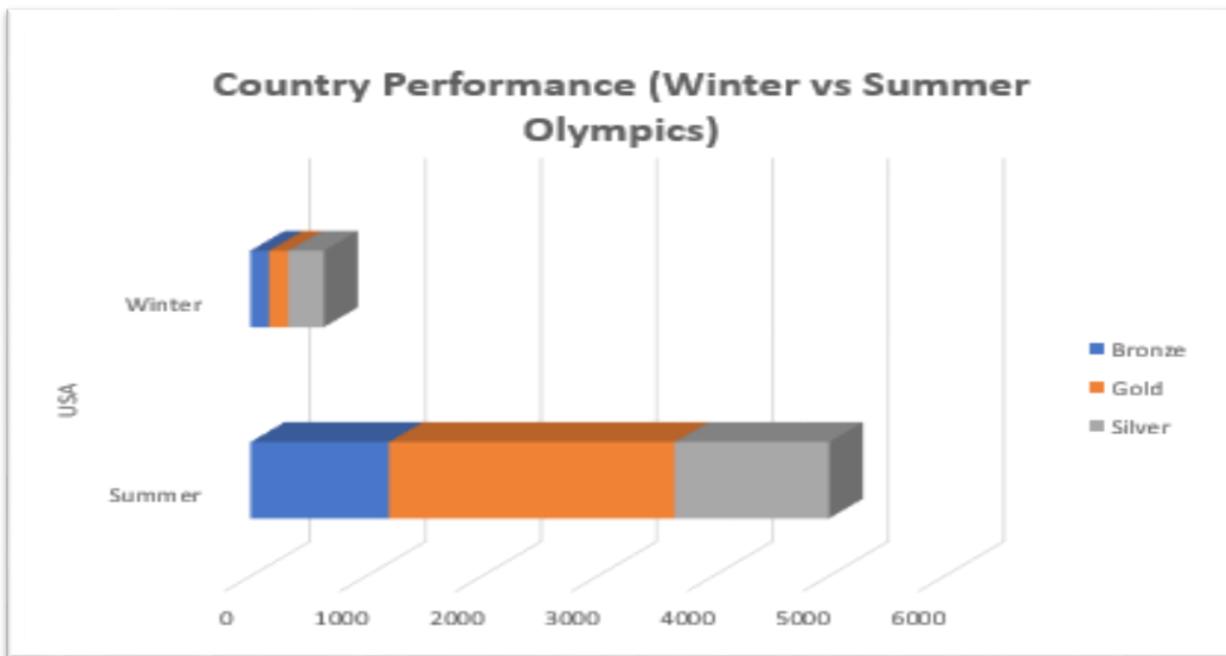
Table 5.19 – Objective 8 Pivot Table and Settings

The screenshot shows a Microsoft Excel spreadsheet with a PivotTable. The PivotTable Fields pane is open on the right side. The 'Rows' section contains 'Country' and 'Season'. The 'Columns' section contains 'Medal'. The 'Values' section contains 'Count of Medal', which is highlighted with a red box and labeled 'Value Filter - Top 1'. The 'PivotTable Fields' pane also shows the 'Medal' field selected with a red circle, and the 'Uncheck NA' option is checked with a red circle. The main table displays data for the USA across Summer and Winter seasons, with a Grand Total row.

| Country | Season | Medal | | | Grand Total |
|---------|-------------|--------|------|--------|-------------|
| | | Bronze | Gold | Silver | |
| USA | | 1358 | 2638 | 1641 | 5637 |
| | Summer | 1197 | 2472 | 1333 | 5002 |
| | Winter | 161 | 166 | 308 | 635 |
| | Grand Total | 1358 | 2638 | 1641 | 5637 |

Result and Visualization –

Table 5.20 – Objective 8 Result



Objective 9 – Relationship: Medal Victory vs Weight

Description – The objective is to establish a relationship between medal victory and weight. Also, for different sports, nation, gender-specific, and many more.

Requirements –

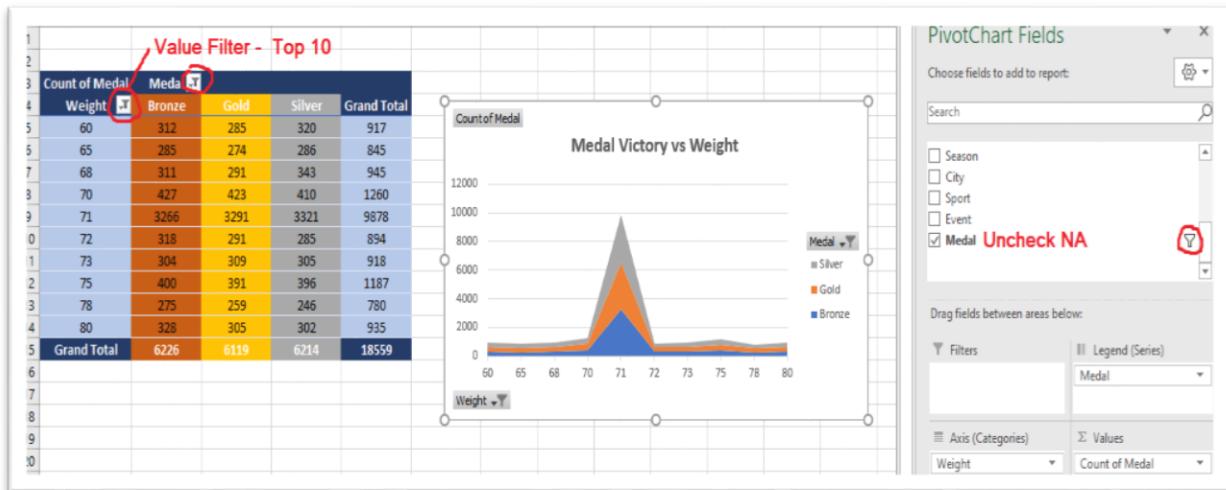
- Pivot Table
- Pivot Chart
- Many Slicers

Specifications – To establish a relationship between medal victory and weight, In the pivot table fields add Weight in the rows, add Medal in columns, and Count of Medal in the values column.

Uncheck NA option in the medals column and apply **Top 10 value filter** in pivot table to display 10 weights only.

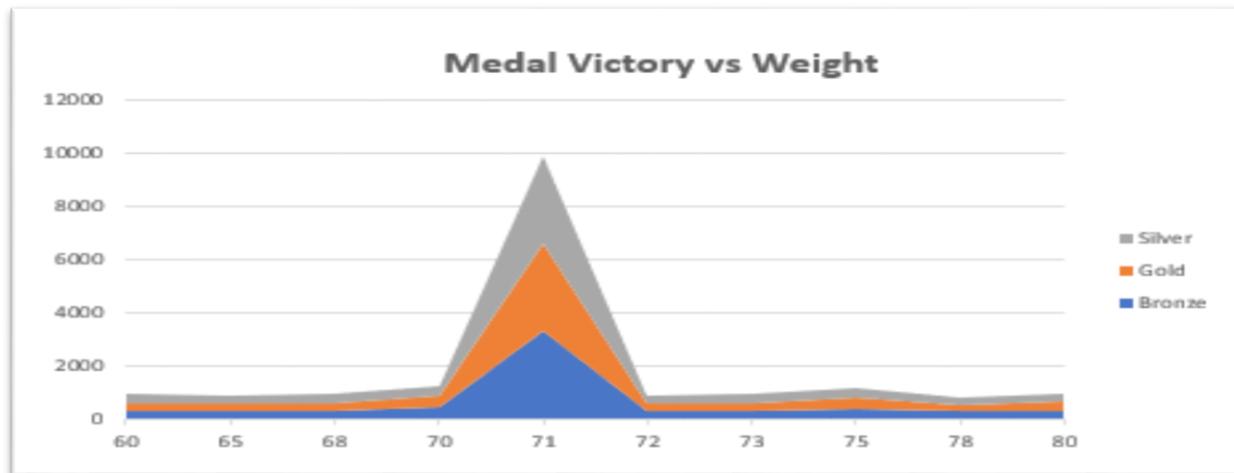
After all the steps, insert an area chart in the pivot table. Then apply the required slicers.

Table 5.21 – Objective 9 Pivot Table and Settings



Result and Visualization –

Table 5.22 – Objective 9 Result



Objective 10 – Relationship: Medal Victory vs Height

Description – The objective is to establish a relationship between medal victory and height. Also, for different sports, nation, gender-specific, and many more.

Requirements –

- Pivot Table
- Pivot Chart
- Many Slicers

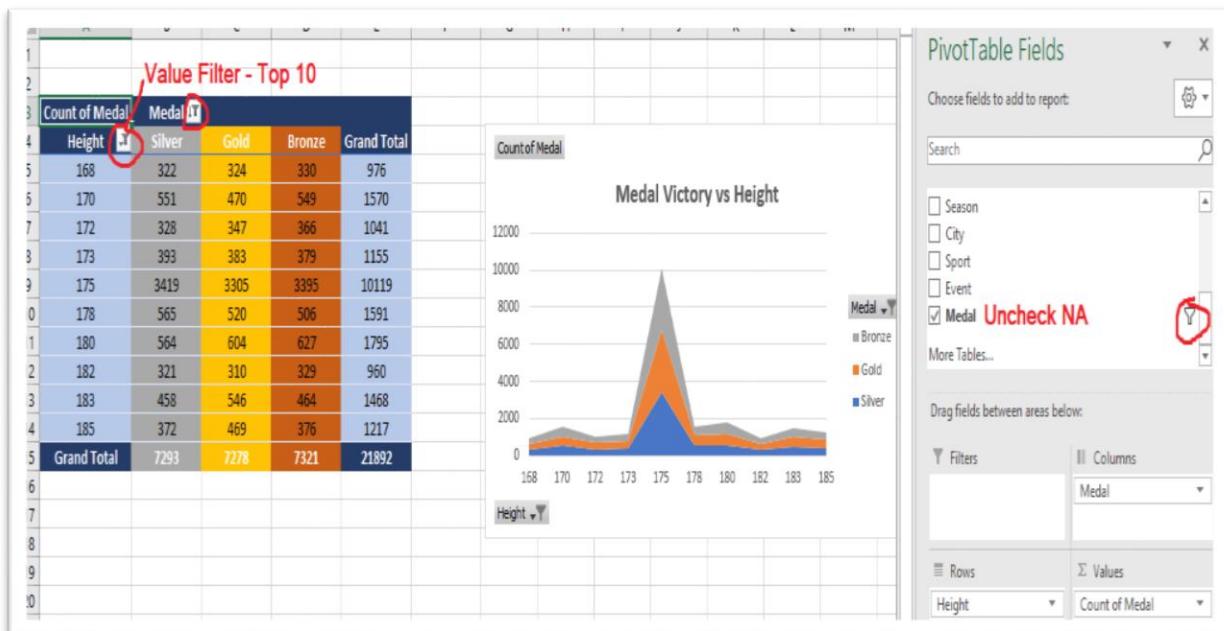
Specifications – To establish a relationship between medal victory and height, In the pivot table fields add Height in the rows, add Medal in columns, and Count of Medal in the values column.

Uncheck NA option in the medals column and apply **Top 10 value filter** in pivot table to display 10 heights only.

After all the steps, insert an area chart in the pivot table.

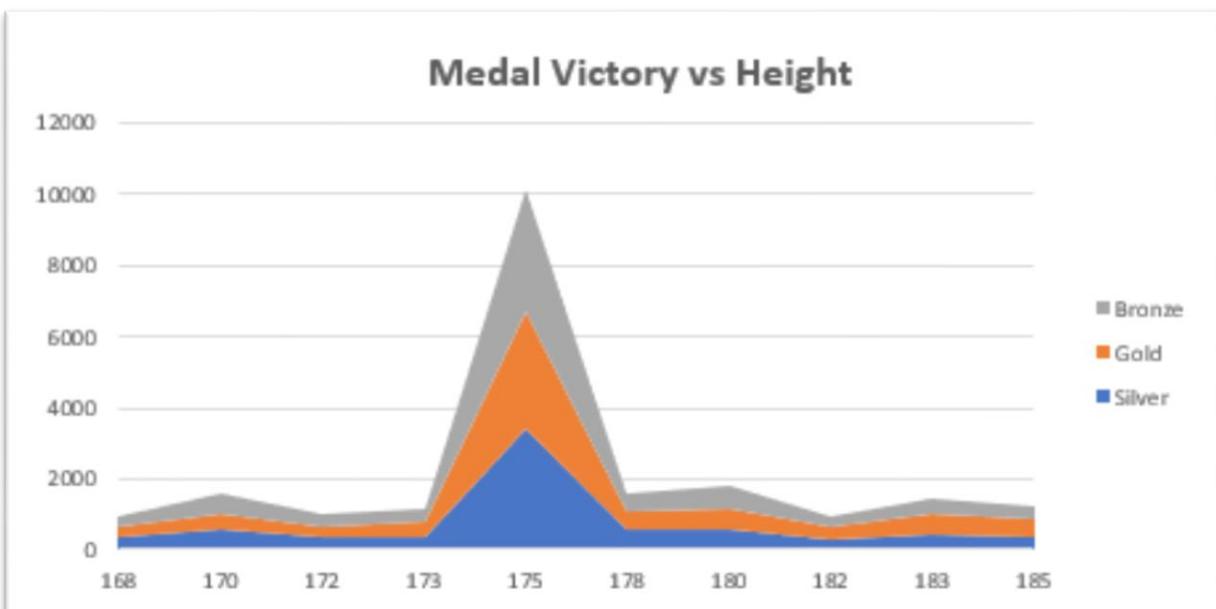
Then apply the required slicers.

Table 5.23 – Objective 10 Pivot Table and Settings



Result and Visualization –

Table 5.24 – Objective 10 Result



Objective 11 – Show Player Participation Index of Host Country

Description – The objective is to show the male/female players strength in the host country. Also, for different sports, nation, and many more.

Requirements –

- Pivot Table
- Pivot Chart
- Many Slicers

Specifications – To show the player participation index of the host countries, In the pivot table fields add City in the rows, add Sex in columns, and Count of Name in the values column.

Apply **largest to smallest filter in cities** column in pivot table.

After all the steps, insert a column chart in the pivot table.

Then apply the required slicers.

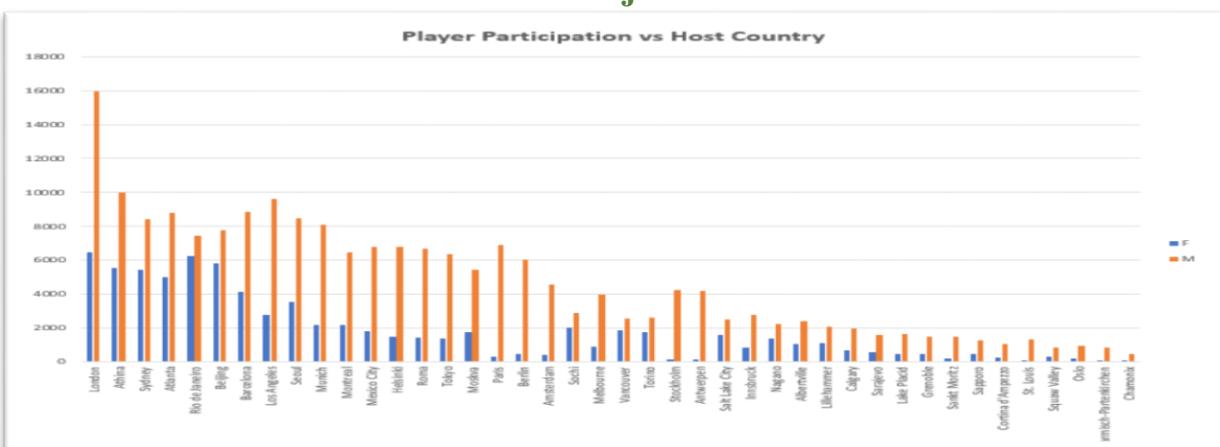
Table 5.25 – Objective 11 Pivot Table and Settings

The screenshot shows the 'PivotTable Fields' dialog box on the right and the resulting PivotTable report on the left. The PivotTable report displays the 'Count of Name' for each city, categorized by 'Sex' (F and M) and summed in the 'Grand Total' column. A red circle highlights the 'Sort Largest to Smallest' button in the PivotTable report header. The PivotTable Fields dialog box shows 'Sex' selected under 'Columns' and 'City' selected under 'Rows'. The 'Values' section shows 'Count of Name'.

| City | F | M | Grand Total |
|----------------|------|-------|-------------|
| London | 6450 | 13756 | 22206 |
| Athens | 5557 | 9599 | 15556 |
| Sydney | 5431 | 8390 | 13821 |
| Atlanta | 5008 | 8772 | 13780 |
| Rio de Janeiro | 6223 | 7465 | 13688 |
| Beijing | 5816 | 7786 | 13602 |
| Barcelona | 4124 | 8853 | 12977 |
| Los Angeles | 2794 | 9629 | 12423 |
| Seoul | 3543 | 8494 | 12037 |
| Karachi | 2193 | 8116 | 10309 |
| Montreal | 2372 | 6469 | 8641 |
| Mexico City | 1777 | 6811 | 8588 |
| Helsinki | 1497 | 6773 | 8270 |
| Roma | 1435 | 6684 | 8119 |
| Tokyo | 1348 | 6354 | 7702 |
| Moskva | 1756 | 5435 | 7191 |
| Paris | 277 | 6892 | 7169 |
| Munich | 448 | 40946 | 45494 |

Result and Visualization –

Table 5.26 – Objective 11 Result



Objective 12 – Show Most Dominant Countries in Olympics using World Map

Description – The objective is show countries using world map which have won most medals in the Olympics.

Requirements –

- Pivot Table
- Normal Table
- Map Chart

Specifications – Map charts don't work with pivot tables, so we need to create a normal table, but first fetch the data from the data set using pivot table. In the pivot table fields add Country in the rows, add Medal in columns, and Count of Medal in the values column.

Uncheck NA option in the medal's column.

Then **copy the Country and Grand Total** column from the pivot table to a **new sheet**.

Once done, then insert the Map chart in the table.

Table 5.27 – Objective 12 Pivot Table and Settings

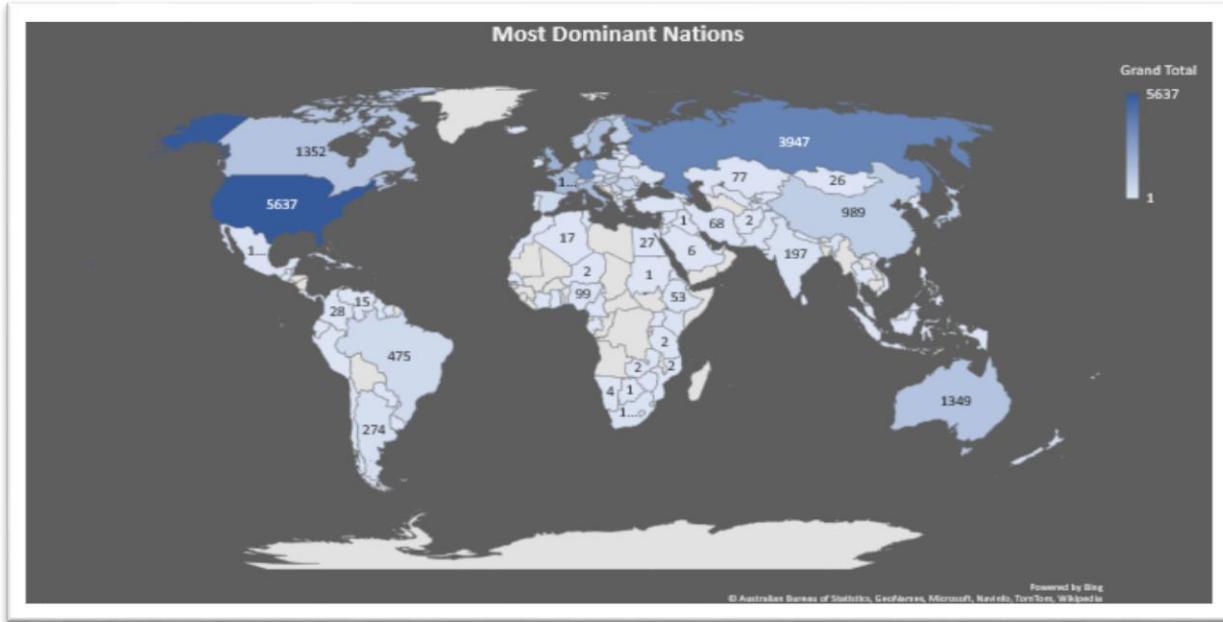
The screenshot shows a Microsoft Excel spreadsheet with a PivotTable. The PivotTable has 'Country' in the Rows area, 'Medal' in the Columns area, and 'Count of Medal' in the Values area. The PivotTable data is as follows:

| Country | Medal | | | |
|-------------|--------|------|--------|-------------|
| | Bronze | Gold | Silver | Grand Total |
| USA | 1358 | 2638 | 1641 | 5637 |
| Russia | 1178 | 1599 | 1170 | 3947 |
| Germany | 1260 | 1301 | 1195 | 3756 |
| UK | 651 | 678 | 739 | 2068 |
| Italy | 531 | 575 | 531 | 1637 |
| France | 666 | 501 | 610 | 1777 |
| Sweden | 535 | 479 | 522 | 1536 |
| Canada | 451 | 463 | 438 | 1352 |
| Hungary | 371 | 432 | 332 | 1135 |
| Norway | 294 | 378 | 361 | 1033 |
| Australia | 522 | 368 | 459 | 1349 |
| China | 292 | 350 | 347 | 989 |
| Netherlands | 413 | 287 | 340 | 1040 |
| Japan | 357 | 247 | 309 | 913 |
| South Korea | 185 | 221 | 232 | 638 |
| Finland | 432 | 198 | 270 | 900 |
| Denmark | 177 | 179 | 241 | 597 |
| Switzerland | 268 | 175 | 248 | 691 |

The PivotTable Fields pane on the right shows 'Medal' selected with the 'Uncheck NA' option checked. The 'Axis (Categories)' section shows 'Country' and the 'Values' section shows 'Count of Medal'.

Result and Visualization –

Table 5.28 – Objective 12 Result



Objective 13 – Show Top 10 Olympics Players Overall

Description – The objective is show top 10 Olympic medalists by standard ranking definition of Olympics.

Requirements –

- Pivot Table
- Normal Table
- Sort Filter
- Bar Chart

Specifications – Multiple custom sorting does not work with pivot tables, so we need to create a normal table, but first fetch the data from the data set using pivot table. In the pivot table fields add Name in the rows, add Medal in columns, and Count of Medal in the values column.

Uncheck NA option in the medal's column.

Then copy the entire Pivot table excluding the first row (i.e column header) to a new sheet.

Table 5.29 – Objective 13 Pivot Table and Settings

| Name | Medal | | | | Grand Total |
|---|--------|------|--------|----------------|-------------|
| | Bronze | Gold | Silver | Count of Medal | |
| Michael Fred Phelps, II | 2 | 23 | 3 | 28 | |
| Paavo Johannes Nurmi | | 9 | 3 | 12 | |
| Mark Andrew Spitz | 1 | 9 | 1 | 11 | |
| Larysa Semenivna Latynina (Diriy-) | 4 | 9 | 5 | 18 | |
| Sawao Kato | 1 | 8 | 3 | 12 | |
| Ole Einar Bjørndalen | 1 | 8 | 4 | 13 | |
| Birgit Fischer-Schmidt | | 8 | 4 | 12 | |
| Jennifer Elisabeth "Jenny" Thompson (-Cumpelik) | 1 | 8 | 3 | 12 | |
| Matthew Nicholas "Matt" Biondi | 1 | 8 | 2 | 11 | |
| Borys Anfiyanovich Shaklin | 2 | 7 | 4 | 13 | |
| Vra slavsk (-Odfolov) | | 7 | 4 | 11 | |
| Viktor Ivanovich Chukarin | 1 | 7 | 3 | 11 | |
| Nikolay Yefimovich Andrianov | 3 | 7 | 5 | 15 | |
| Ryan Steven Lochte | 3 | 6 | 3 | 12 | |
| Eduardo Mangiarotti | 2 | 6 | 5 | 13 | |
| Takashi Ono | 4 | 5 | 4 | 13 | |
| Carl Townsend Osburn | 2 | 5 | 4 | 11 | |
| Aleksandr Vladimirovich Popov | | 5 | 6 | 11 | |
| Dara Grace Torres (-Hoffman, -Minas) | 4 | 4 | 4 | 12 | |
| Aleksey Yuryevich Nemov | 6 | 4 | 2 | 12 | |

Once done, then apply custom sort in the new table.

First sort by **Gold – largest to smallest**, then by **Silver - largest to smallest**, then by **Bronze - largest to smallest**.

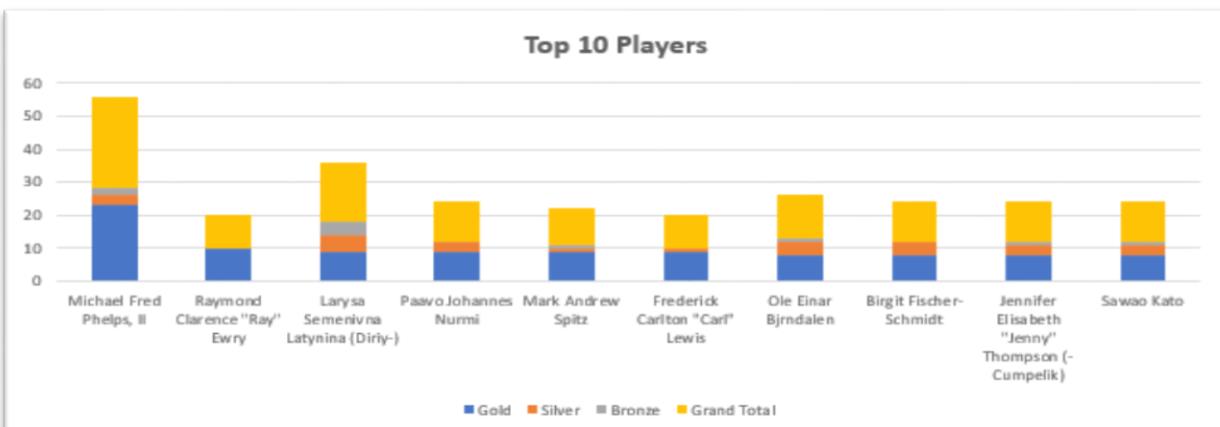
At last, just select **top 10** manually and insert a column chart.

Table 5.30 – Objective 13 Custom Sort

| Name | Gold | Silver | Bronze | Grand Total |
|---|------|--------|--------|-------------|
| Michael Fred Phelps, II | 23 | 3 | 2 | 28 |
| Raymond Clarence "Ray" Ewry | 10 | | | 10 |
| Larysa Semenivna Latynina (Diriy-) | 9 | 5 | 4 | 18 |
| Paavo Johannes Nurmi | 9 | 3 | | 12 |
| Mark Andrew Spitz | 9 | 1 | 1 | 11 |
| Frederick Carlton "Carl" Lewis | 9 | 1 | | 10 |
| Ole Einar Bjørndalen | 8 | 4 | 1 | 13 |
| Birgit Fischer-Schmidt | 8 | 4 | | 12 |
| Jennifer Elisabeth "Jenny" Thompson (-Cumpelik) | 8 | 3 | 1 | 12 |
| Sawao Kato | 8 | 3 | 1 | 12 |
| Matthew Nicholas "Matt" Biondi | 8 | 2 | 1 | 11 |
| Usain St. Leo Bolt | 8 | | | 8 |
| Nikolay Yefimovich Andrianov | 7 | 5 | 3 | 15 |
| Borys Anfiyanovich Shaklin | 7 | 4 | 2 | 13 |
| Vra slavsk (-Odfolov) | 7 | 4 | | 11 |
| Viktor Ivanovich Chukarin | 7 | 3 | 1 | 11 |
| Aladz Gerevich (-Gerei) | 7 | 1 | 2 | 10 |
| Donald Arthur "Don" Schollander | 7 | 1 | | 8 |
| Eduardo Mangiarotti | 6 | 5 | 2 | 13 |
| Gerard Theodor Hubert Van Innis | 6 | 4 | | 10 |
| Nabelle Regina Werth | 6 | 4 | | 10 |

Result and Visualization –

Table 5.31 – Objective 13 Result



Objective 14 – Show Top 10 Nations in Olympics Overall

Description – The objective is show top 10 countries by standard ranking definition of Olympics.

Requirements –

- Pivot Table
- Normal Table
- Sort Filter
- Bar Chart

Specifications – Multiple custom sorting does not work with pivot tables, so we need to create a normal table, but first fetch the data from the data set using pivot table. In the pivot table fields add Country in the rows, add Medal in columns, and Count of Medal in the values column.

Uncheck NA option in the medal's column.

Then **copy the entire Pivot table excluding the first row (i.e column header)** to a new sheet.

Table 5.32 – Objective 14 Pivot Table and Settings

The screenshot shows a Microsoft Excel interface with a PivotTable Fields pane on the right and a data grid on the left. The data grid contains the following table:

| Country | Bronze | Gold | Silver | Grand Total |
|-------------|--------|------|--------|-------------|
| USA | 1358 | 2638 | 1641 | 5637 |
| Russia | 1178 | 1599 | 1170 | 3947 |
| Germany | 1260 | 1301 | 1195 | 3756 |
| UK | 651 | 678 | 739 | 2068 |
| Italy | 531 | 575 | 531 | 1637 |
| France | 666 | 501 | 610 | 1777 |
| Sweden | 535 | 479 | 522 | 1536 |
| Canada | 451 | 463 | 438 | 1352 |
| Hungary | 371 | 432 | 332 | 1135 |
| Norway | 294 | 378 | 361 | 1033 |
| Australia | 522 | 368 | 459 | 1349 |
| China | 292 | 350 | 347 | 989 |
| Netherlands | 413 | 287 | 340 | 1040 |
| Japan | 357 | 247 | 309 | 913 |
| South Korea | 185 | 221 | 232 | 638 |
| Finland | 432 | 198 | 270 | 900 |
| Denmark | 177 | 179 | 241 | 597 |
| Switzerland | 268 | 175 | 242 | 601 |

A red box highlights the "Count of Medal" column header in the table. A red arrow points from the "Count of Medal" column header to the "Values" section of the PivotTable Fields pane. A red box also highlights the "Medal" checkbox in the "Choose fields to add to report" list. A red circle with a question mark is placed over the "Uncheck Na" checkbox.

Once done, then apply custom sort in the new table.

First sort by **Gold – largest to smallest**, then by **Silver - largest to smallest**, then by **Bronze - largest to smallest**.

At last, just select **top 10** manually and insert a column chart.

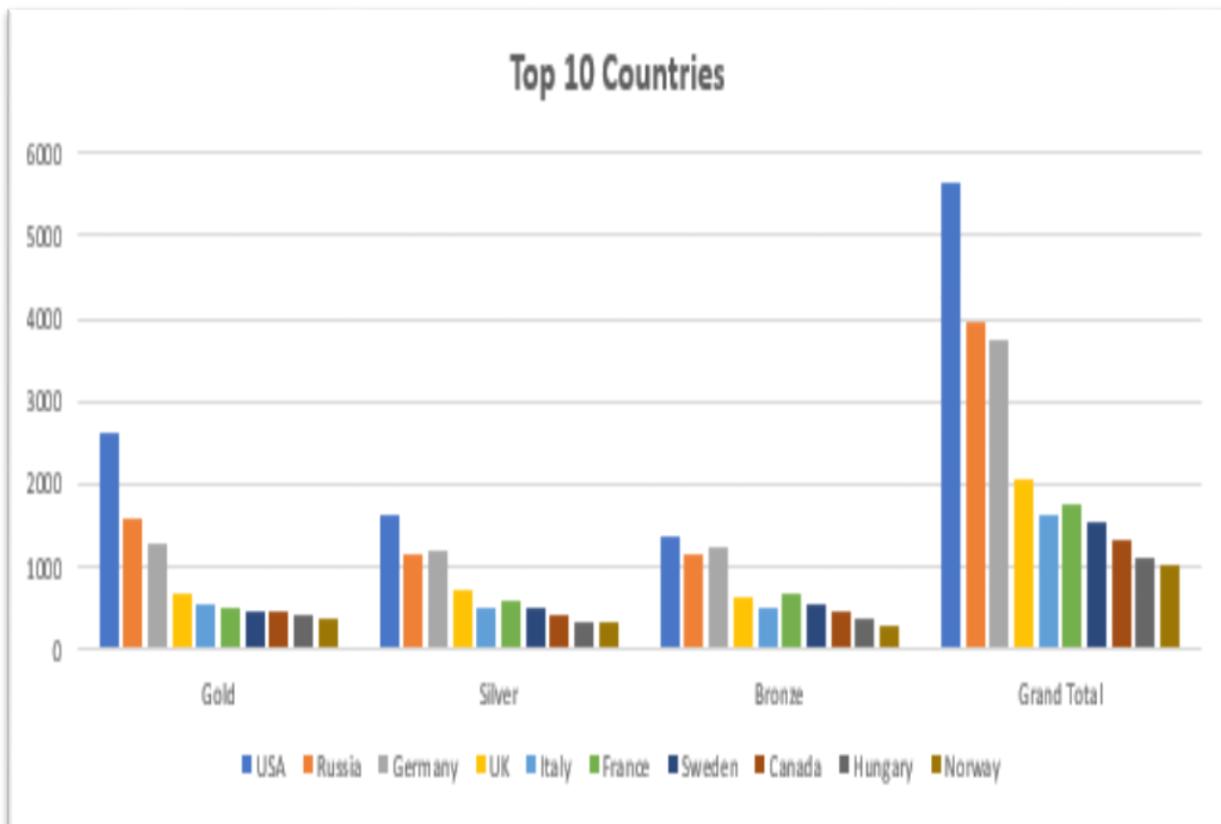
Table 5.33 – Objective 14 Custom Sort

The screenshot shows an Excel spreadsheet titled "Netherlands" with a table of medal counts. The table has columns for Country, Gold, Silver, Bronze, and Grand Totals. The "Home" tab is selected in the ribbon. A red arrow points from the "Sort & Find & Filter" icon in the ribbon to the "Sort" dialog box, which is open and displays the custom sort settings.

| Country | Gold | Silver | Bronze | Grand Tot |
|-------------|------|--------|--------|-----------|
| USA | 2638 | 1641 | 1358 | 5637 |
| Russia | 1599 | 1170 | 1178 | 3947 |
| Germany | 1301 | 1195 | 1260 | 3756 |
| UK | 678 | 739 | 651 | 2068 |
| Italy | 575 | 531 | 531 | 1637 |
| France | 501 | 610 | 666 | 1777 |
| Sweden | 479 | 522 | 535 | 1536 |
| Canada | 463 | 438 | 451 | 1352 |
| Hungary | 432 | 332 | 371 | 1135 |
| Norway | 378 | 361 | 294 | 1033 |
| Australia | 368 | 459 | 522 | 1349 |
| China | 350 | 347 | 292 | 989 |
| Netherlands | 287 | 340 | 413 | 1040 |
| Japan | 247 | 309 | 357 | 913 |
| South Korea | 221 | 232 | 185 | 638 |
| Finland | 198 | 270 | 432 | 900 |
| Denmark | 179 | 241 | 177 | 597 |
| Switzerland | 175 | 248 | 268 | 691 |
| Cuba | 164 | 129 | 116 | 409 |
| Romania | 161 | 200 | 292 | 653 |
| India | 138 | 19 | 40 | 197 |

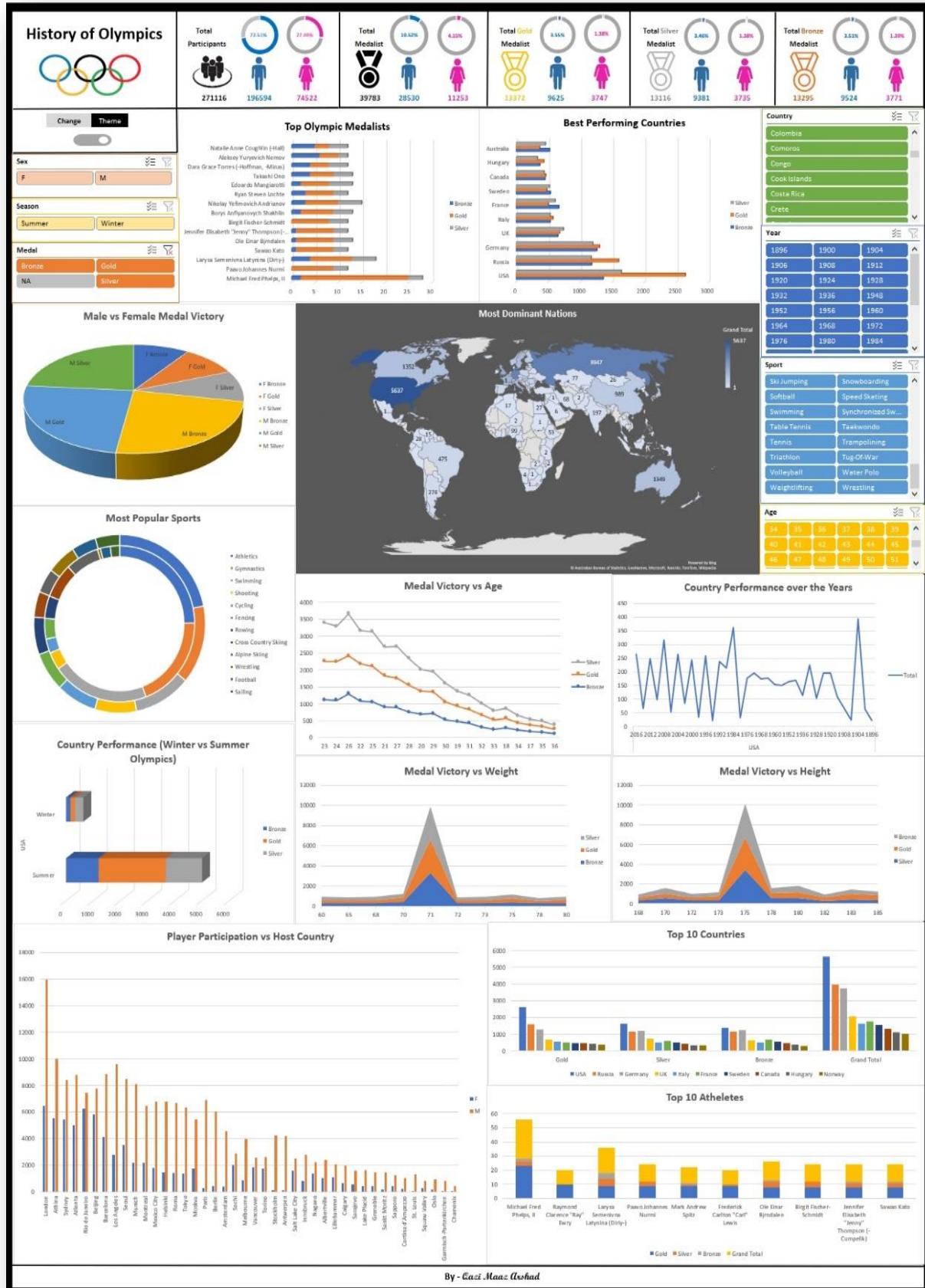
Result and Visualization –

Table 5.34 – Objective 14 Result



Chapter 6 – Dashboard

Figure 6.1 – The Dashboard



By - Eazi Maaz Ashad

I have created this dashboard by combining all the results obtained in the data analysis, then connecting the required slicers, adding images, objects, and style to the dashboard.

This dashboard can be used to find various, records, stats, and trends in the Olympics like:

Which is the best performing country in Winter Olympics.

Who won most bronze medals in hockey.

Which female wrestler of India has won an Olympic medal.

What is the male/female participation and victory index of Nigeria.

How many players have never won a medal.

Who was the youngest female gold medalist in archery.

What is the most optimum height and weight that has produced most medalists in swimming.

How many gold medals USA won in 2016 Summer Olympics.

Which host city recorded the highest participants in ice skating.

etc. and a lot more data can be easily deduced from this dashboard, and not only just number but the result will be graphically represented.

This dashboard comes with some special features as well.

Special Features

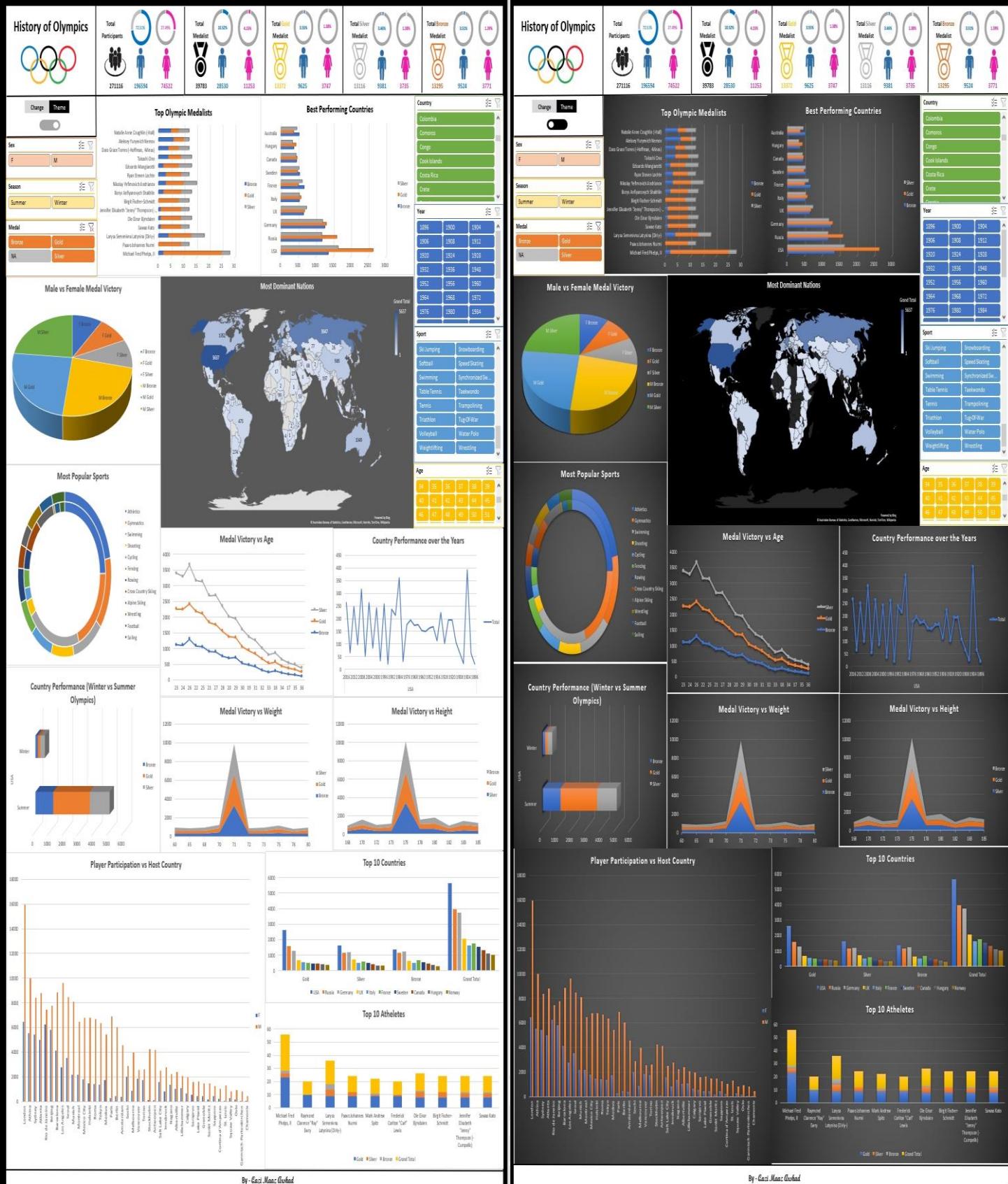
This dashboard has many special features some are hidden, and some are visible. Important features are:

Dark/Light theme switch – This toggle switch allows user to change the theme color of the dashboard from white to black (light to dark). Excel does not provide such features; this switch has been added with a trick. This **toggle switch** is just an **Image**, and this image is **linked to another copy of this dashboard** which has all charts with **dark**.

Figure 6.2 – Dark/Light Toggle Switch

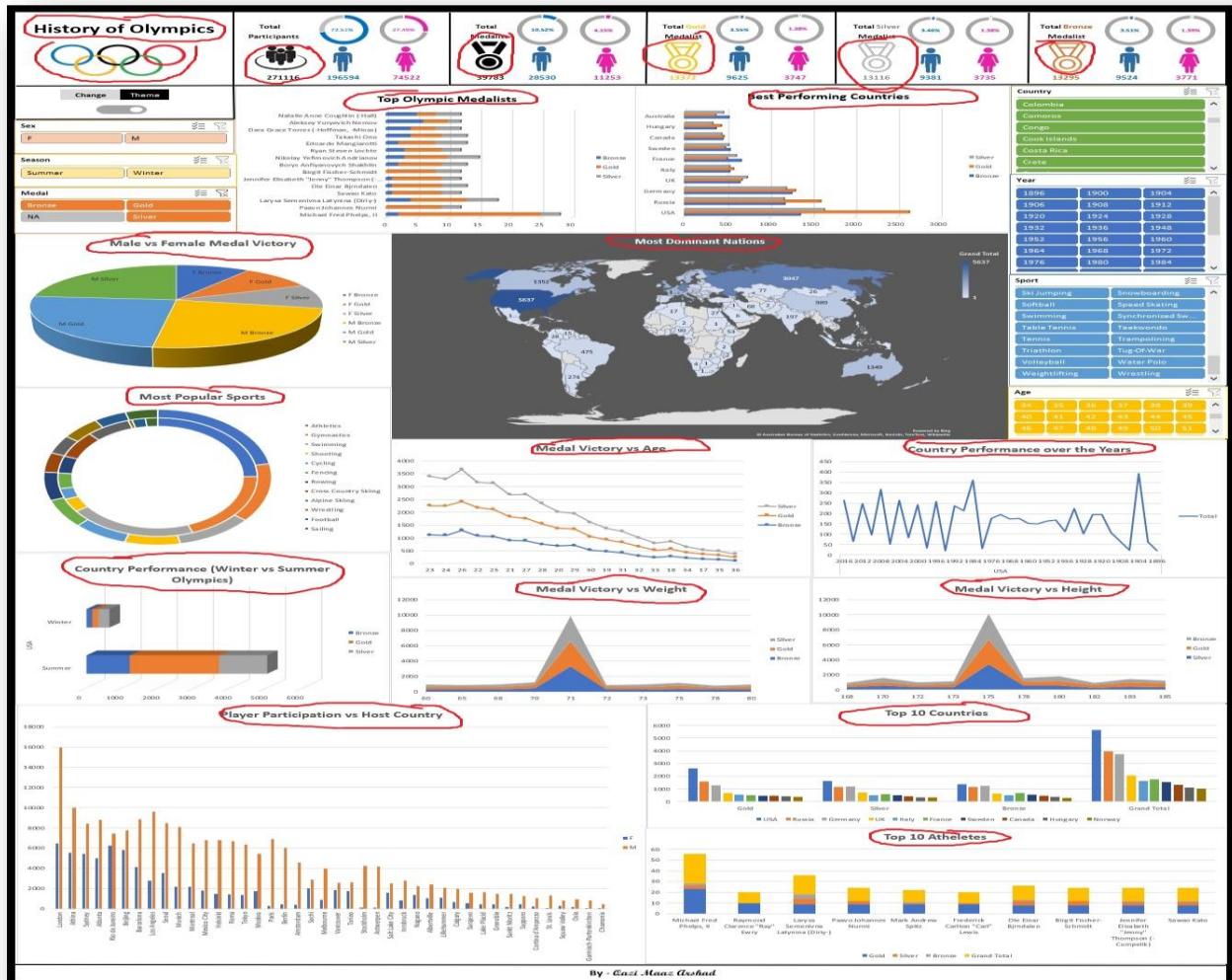


Figure 6.3 – Dark/Light Theme



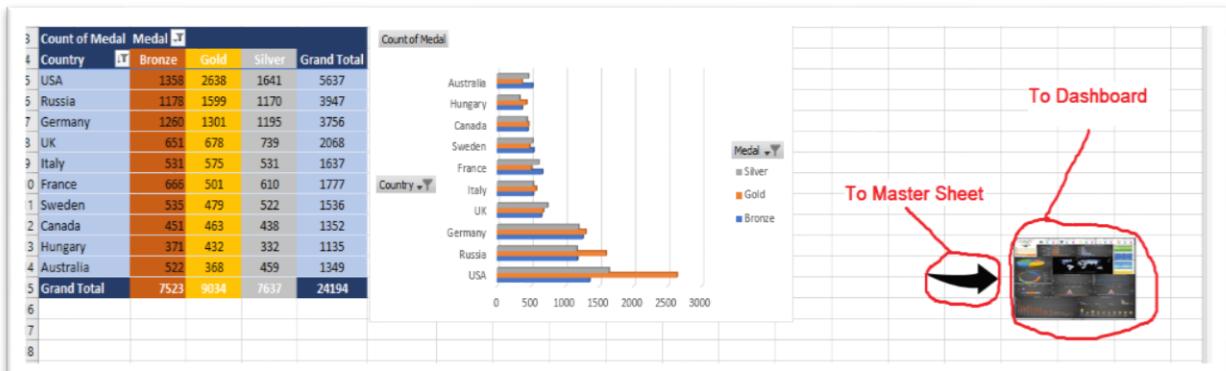
Hidden Links and Master Sheet – The dashboard has many hidden links which takes user directly to the source data and source pivot table which helps to understand the architecture of specific parts of the dashboard.

Figure 6.4 – Hidden Links



Also every single sheet also has shortcut links which takes directly to dashboard and Master Sheet.

Figure 6.5 – Shortcut Links to Dashboard and Master Sheet



Master Sheet – A master sheet is a sheet in the workbook which has links to all the sheets of the workbook. It makes it easier to navigate in the workbook.

Figure 6.6 – The Master Sheet

| Sheet Name | Link |
|----------------------------|---|
| Dashboard |  |
| Dark Dashboard |  |
| Raw Data Set 1 |  |
| Raw Data Set 2 |  |
| Raw Data Combined |  |
| Clean Data Set |  |
| Calculation |  |
| Top Olympic Medalists |  |
| Top 10 Players |  |
| Best Performing Countries |  |
| Top 10 Countries |  |
| Most Dominant Nations |  |
| Age vs Victory |  |
| Country Yearly Performance |  |
| Male vs Female |  |
| Height vs Medal |  |
| Weight vs Medal |  |
| Country - Summer vs Winter |  |
| Host vs Participants |  |
| Most Popular Sports |  |

Summary of Report

In this report I have discussed in detail my project, its working, making, features, and applications. I have explained each step of making an Olympics Statistics Dashboard using from a raw data using Excel.

This report highlights all the processes involved in the making in serial order from ETL processes extracting, transforming, and loading data to using several excel features like pivot table, filtering, sorting, formulas to perform data analysis and deduce important results then representing them graphically using charts.

I have also attached the preview of the dashboard, and all the objectives in this report.

References

- 120 years of Olympic history: athletes and results (Data Set) - <https://www.kaggle.com/heesoo37/120-years-of-olympic-history-athletes-and-results>. (Accessed on 20th Nov 2021).
- <https://exceljet.net/excel-pivot-tables>. (Accessed on 23rd Nov 2021).