# TABLEAU

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# INTRODUCTION TO TABLEAU

### What is Tableau?

Tableau is a leading data visualization tool that helps users transform raw data into actionable insights through interactive and shareable dashboards. It is widely used in industries ranging from finance to healthcare, enabling users to create visually compelling reports and make data-driven decisions without needing deep technical expertise.

### Key Features of Tableau:

- Interactive Dashboards:

Tableau allows users to build dynamic dashboards that update in real-time and offer a comprehensive view of data. These dashboards can be customized to suit various analytical needs and are easy to share with others.

- Real-Time Data Analysis:

One of Tableau's strongest features is its ability to connect to live data sources, allowing for real-time updates in visualizations. This feature is particularly valuable for businesses that rely on timely data for decision-making.

- Data Blending:

Tableau can combine data from multiple sources, such as databases, spreadsheets, and cloud services, into a single, coherent view. This helps in gaining insights from disparate datasets without the need for extensive data preparation.

- Custom Calculations:

With Tableau, users can create calculated fields and perform complex calculations directly within the platform, enhancing the depth and accuracy of their analysis.

### Why Use Tableau?

Tableau is designed to be user-friendly while offering powerful features that cater to both beginners and experienced data analysts. Its drag-and-drop interface, combined with advanced analytical capabilities, makes it a preferred choice for professionals who need to visualize data quickly and effectively. Whether it's identifying trends, making forecasts, or communicating insights, Tableau excels in turning data into a strategic asset.

## Applications Across Industries:

Tableau's versatility allows it to be applied across various sectors:

➢ Finance: For tracking performance metrics and analyzing financial data.
➢ Healthcare:For visualizing patient data and improving operational efficiency.
➢ Retail: For understanding sales trends and optimizing inventory management.
➢ Education: For analyzing student performance and improving educational outcomes.

## Downloading and installation of Tableau:
First you need to download the Tableau for desktop application

1. Go to the Tableau official website(https://www.tableau.com/).
2. Click on "Try Tableau for Free" at the top right of the page.
3. Choose Tableau Desktop and fill in your details (email, company, etc.).
4. Once completed, the download will begin automatically.
5. After downloading, run the installer and follow the prompts to complete the installation.

Here's a basic overview of how Tableau works and its main components with implementation:

## 1.Selecting a Dataset:
- Start Tableau and connect to your data. You can select a dataset from various sources like text files, Excel spreadsheets, databases, etc.

**Example**: Use a dataset like "VgSales".

**Implementation**: Click on **"Connect"** → Choose **"Text File"** or **"Microsoft Excel"** → Select your dataset → Tableau loads the data into the workspace.

## 2. Data Connection:
- After selecting your dataset, Tableau will load the data into the workspace. You can preview and clean the data if needed.

Once the data is loaded, review it in the **Data Source** tab. You can clean or rename fields here if needed.



## 3. Worksheet:
- Go to a new worksheet where you can begin creating visualizations. Worksheets are where you build your charts and graphs.

Click on the **Sheet 1** tab (default worksheet). This is where you drag and drop fields to create your visualizations.
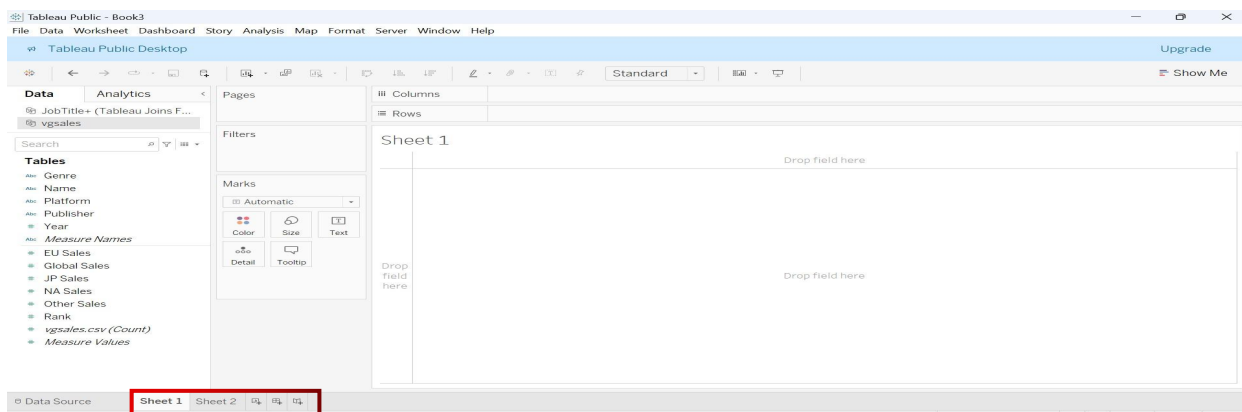


Sheet1

## 4. Rows and Columns:

- Drag fields from the data pane into the Rows and Columns shelves. This defines the structure of your visualization, with Rows typically representing categories and Columns representing values.



Representation of rows and columns(fields)



Total rows and columns in a Dataset

## 5. Marks Card:

- In the Marks section, you can modify the appearance of your data. Key components include:
  - Color: Drag a field to the Color shelf to color-code your data.
  - Size:Adjust the size of data points by dragging a field to the Size shelf.
  - Label:Add labels to your data points by dragging a field to the Label shelf.

# 6. Adding Filters:

- To focus on specific parts of your data, you can add filters. Drag a field to the Filters shelf and configure the filter criteria to narrow down the data displayed.
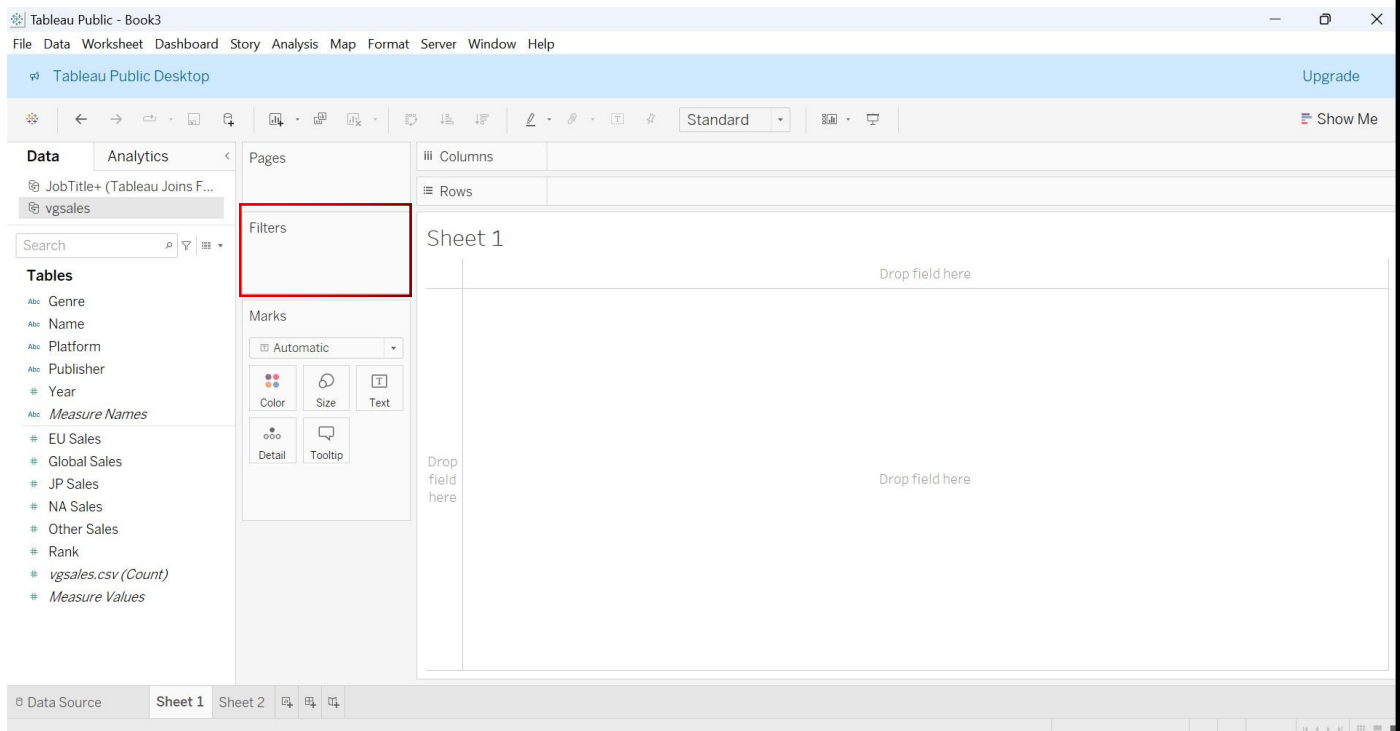


# 7. Bins:

- Bins are used to group continuous data into discrete ranges. To create bins, right-click a field, select "Create," and then "Bins." You can specify the bin size to group data, such as creating ranges for years.

# 8. Calculated Fields:

- Calculated fields allow you to create new data fields based on existing ones. Go to the Analysis menu, select "Create Calculated Field," and write a formula to compute new values.

# 9. Pie Charts: - To create a pie chart, drag a categorical field to the Color shelf and a measure field to the Angle shelf. Pie charts are useful for showing proportions of a whole.
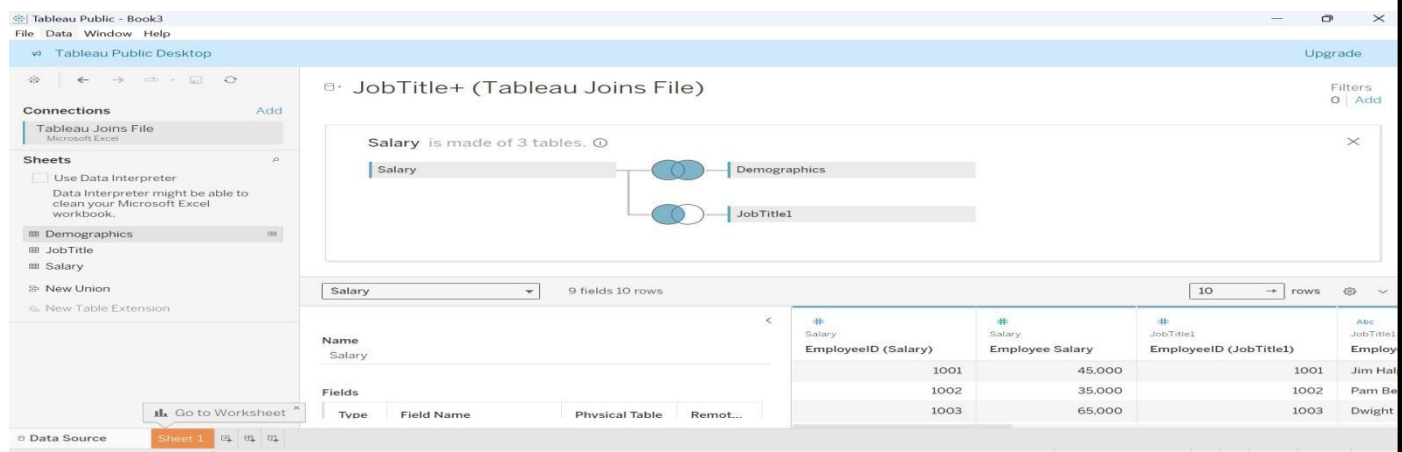
## 10. Joins:

- To combine data from multiple tables, you can use joins. Go to the Data Source tab, drag and drop tables onto the canvas, and define the join criteria (inner, left, right, or outer join) to combine the data.
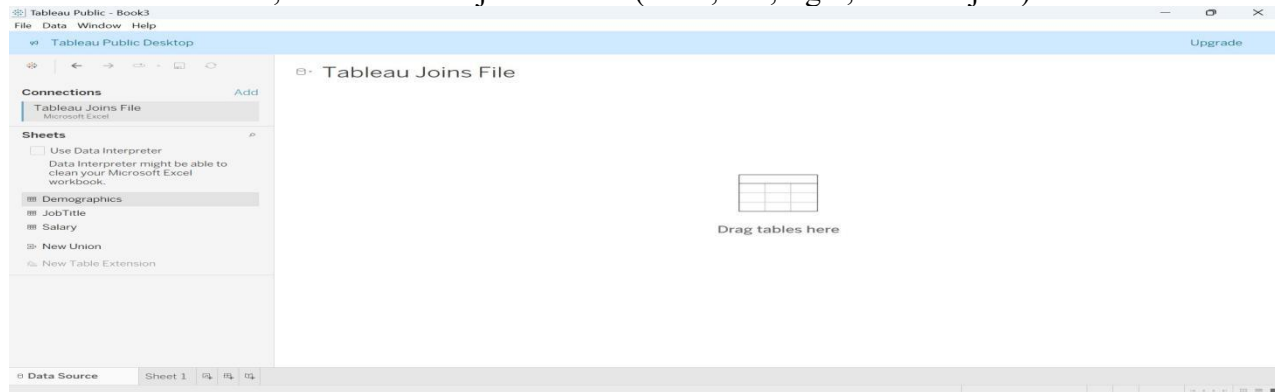


Drag tables and implement the joins
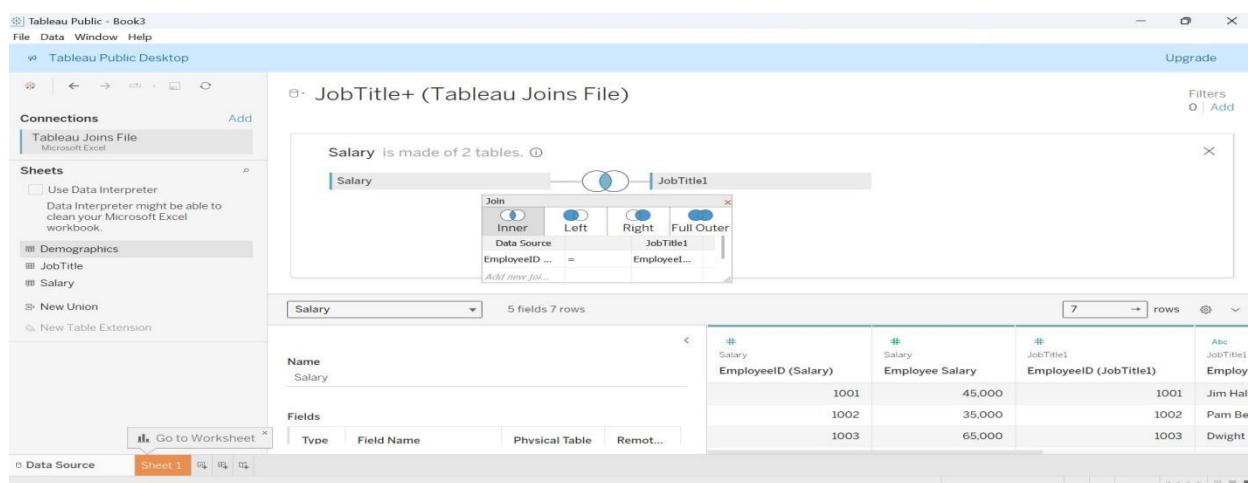


You can customise the joins and the Data field names



Joins for three tables

Each component of Tableau allows you to manipulate and visualize your data in various ways, helping to uncover insights and present information effectively.

## PROJECT :

The vgsales dataset from Kaggle contains data about video game sales across various platforms and regions. This dataset typically includes:

- Rank: The ranking of the game based on global sales.
- Name: The name of the video game.
- Platform: The gaming platform the game was released on (e.g., PS4, Xbox, PC, etc.).
- Year: The year the game was released.
- Genre: The type or category of the game (e.g., Action, Sports, RPG).
- Publisher: The company that published the game.
- NA_Sales: Sales figures in North America (in millions).
- EU_Sales: Sales figures in Europe (in millions).
- JP_Sales: Sales figures in Japan (in millions).
- Other_Sales: Sales in other regions (in millions).
- Global_Sales: Total worldwide sales (in millions).

This dataset provides a rich source of information for analyzing trends in video game popularity, performance across regions, and sales distribution among different platforms, genres, and publishers.

In my analysis of the vgsales dataset, I created several Tableau worksheets that examine different aspects of the data:
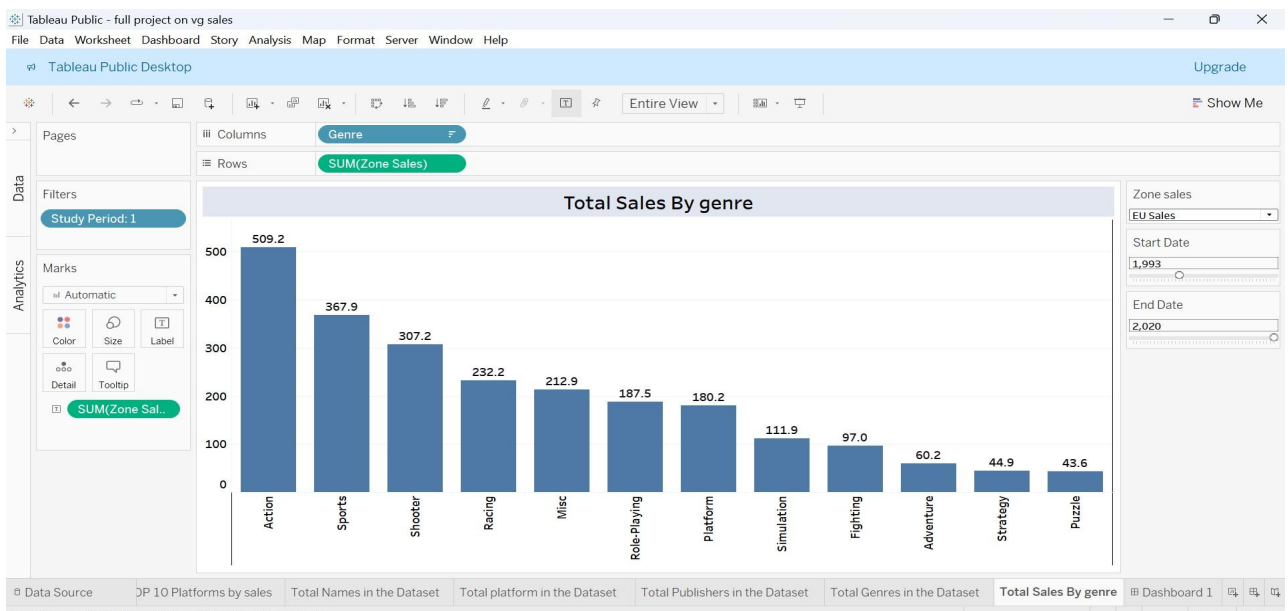
## 1. Top 10 Platforms by Sales:
This worksheet highlights the platforms that generated the most sales globally, providing insights into the most successful gaming consoles and systems.
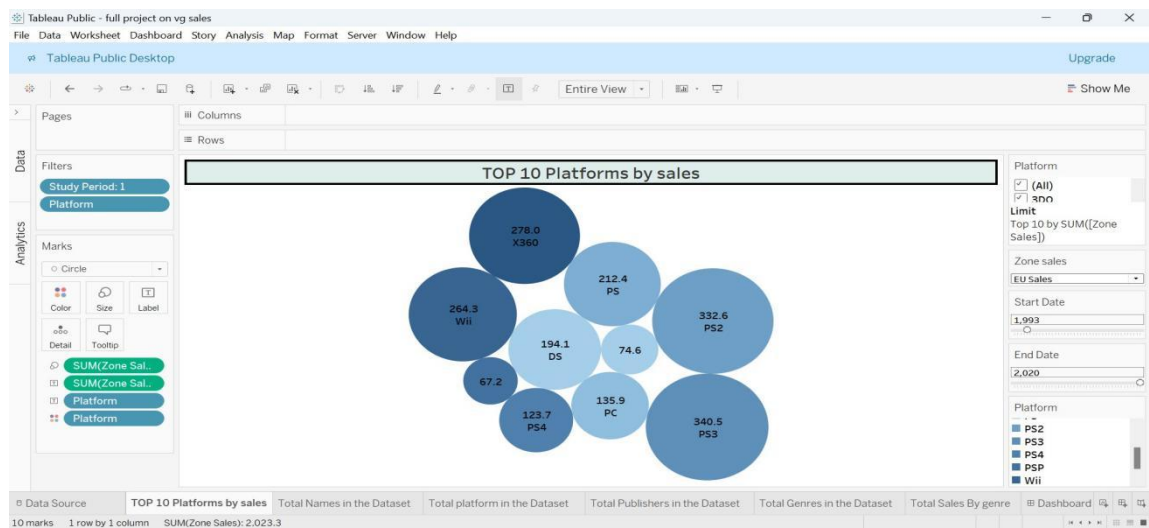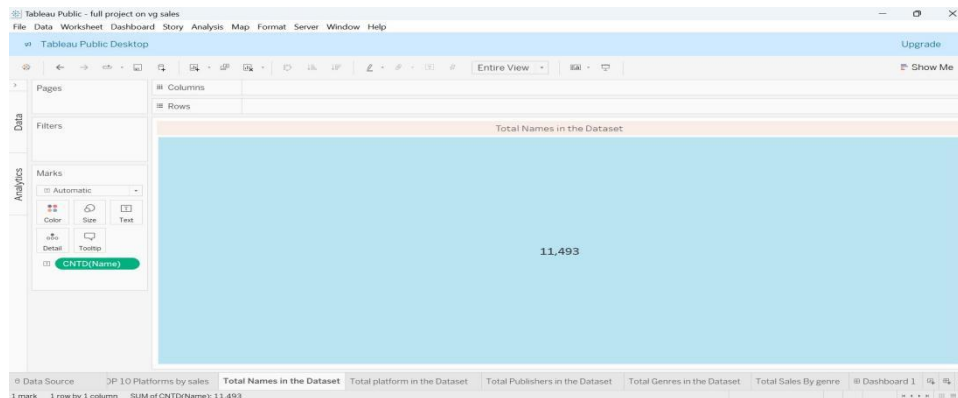


## 2. Total Sales by Genre:
This worksheet breaks down total sales by game genre, showcasing which types of games have performed best in terms of sales over the years.

## 3. Total Platforms, Genres, Names, and Publishers:

Here, I explored the total number of unique platforms, genres, game titles, and publishers represented in the dataset, offering a comprehensive



Total Names in the Dataset



Total Genres in the Dataset



Total platforms in the Dataset
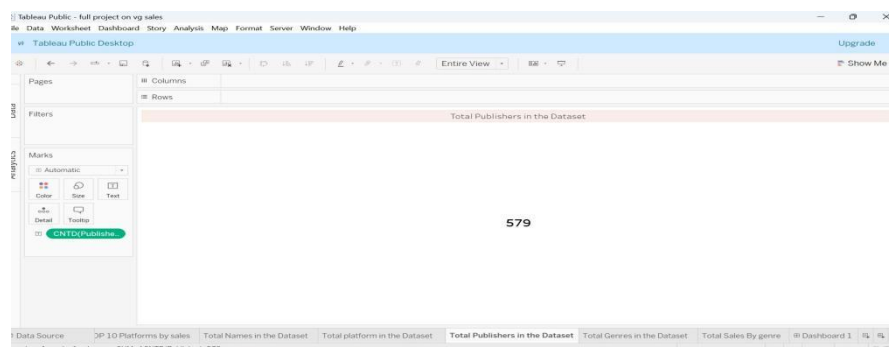


Total Publishers in the Dataset

## 4. Total Sales by Genre:

This worksheet breaks down total sales by game genre, showcasing which types of games have performed best in terms of sales over the years.
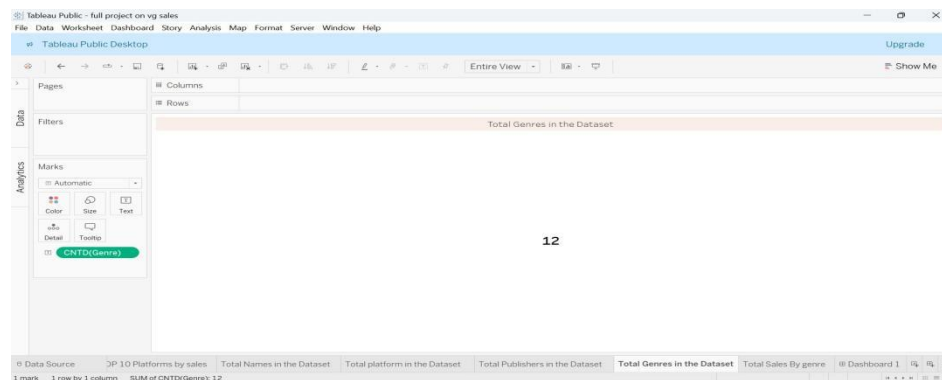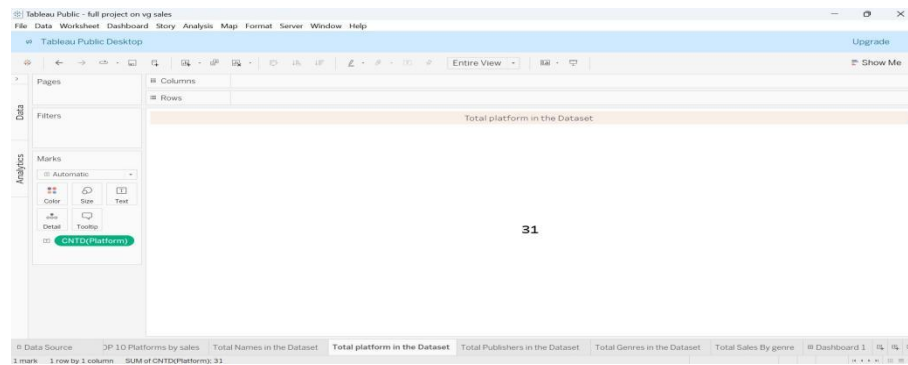


## 5. Sales by Year and Genre:

I analyzed how sales for different genres have evolved over time, providing a timeline of trends and shifts in the gaming industry's preferences.

## 6. Top 10 Names by Sales:

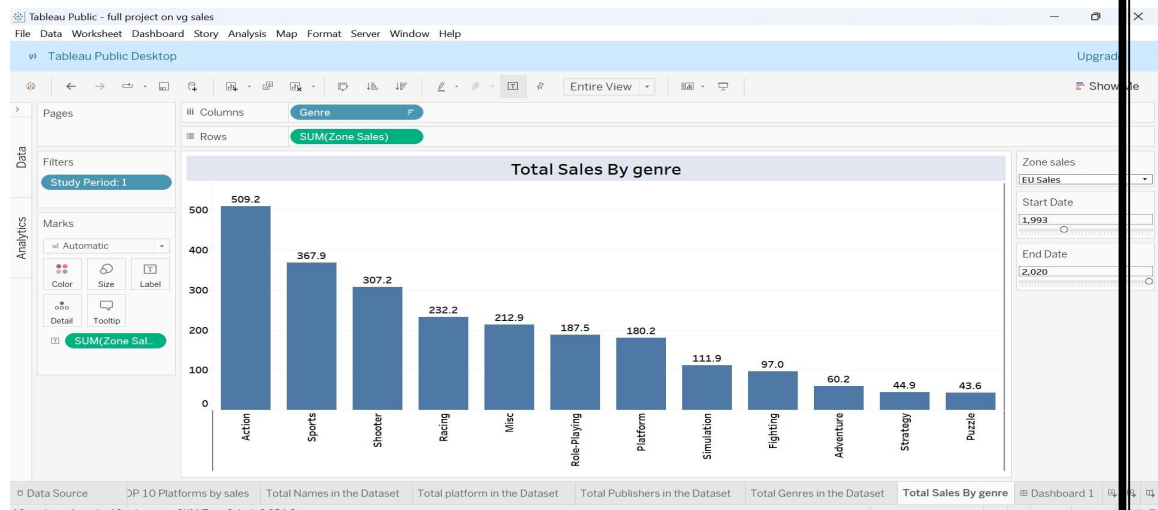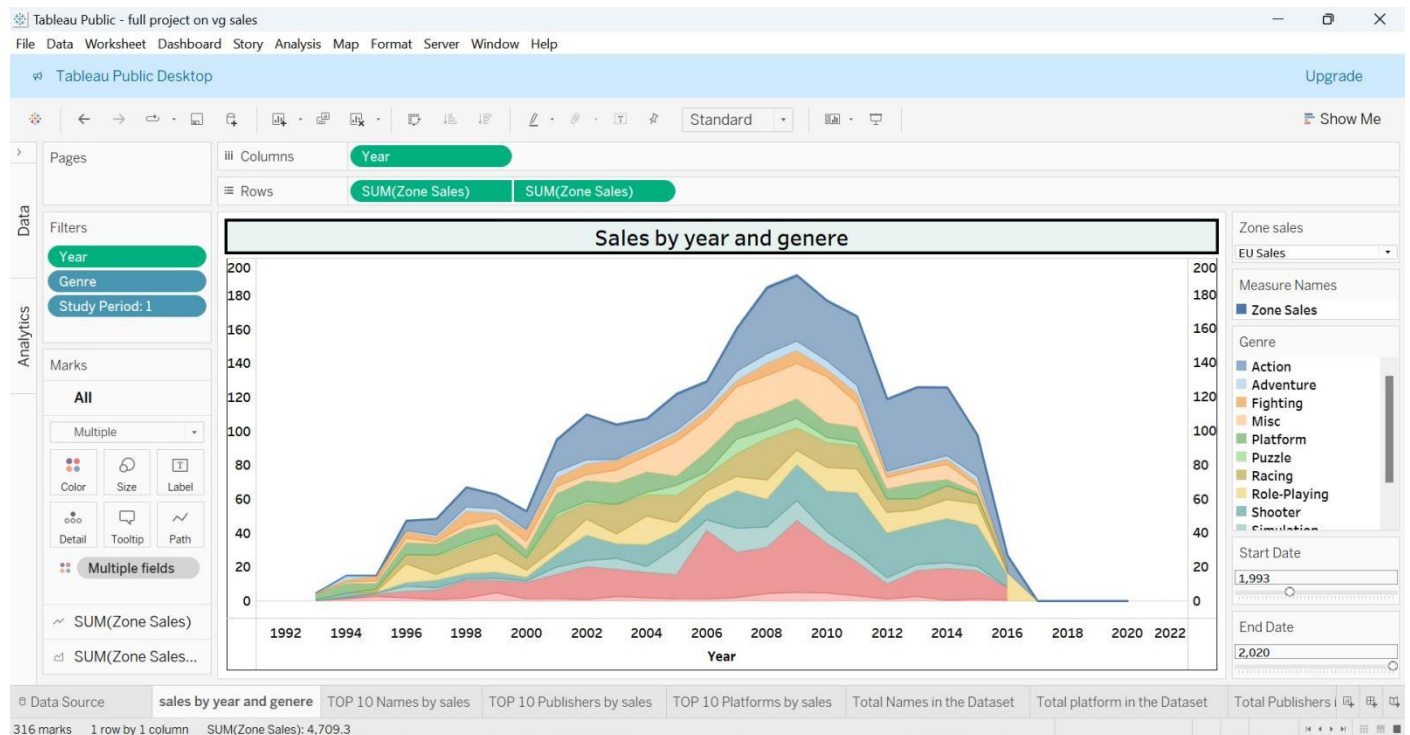This worksheet lists the top 10 video games with the highest global sales, giving insight into the most popular and successful titles.
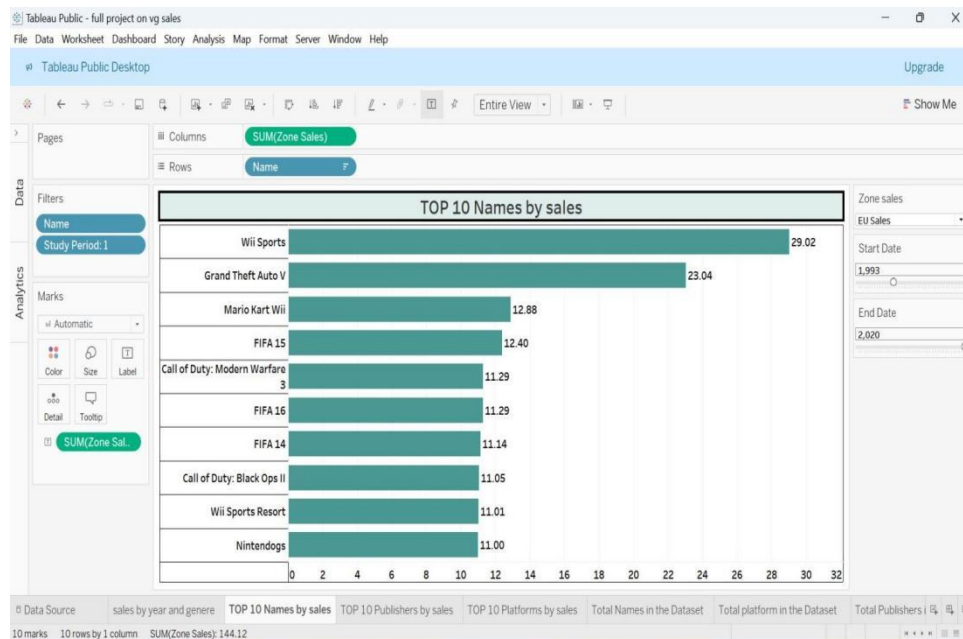


## 7. Top 10 Publishers by Sales:

Here, I ranked the top 10 publishers by their total global sales, offering a look at the most dominant companies in the video game industry.
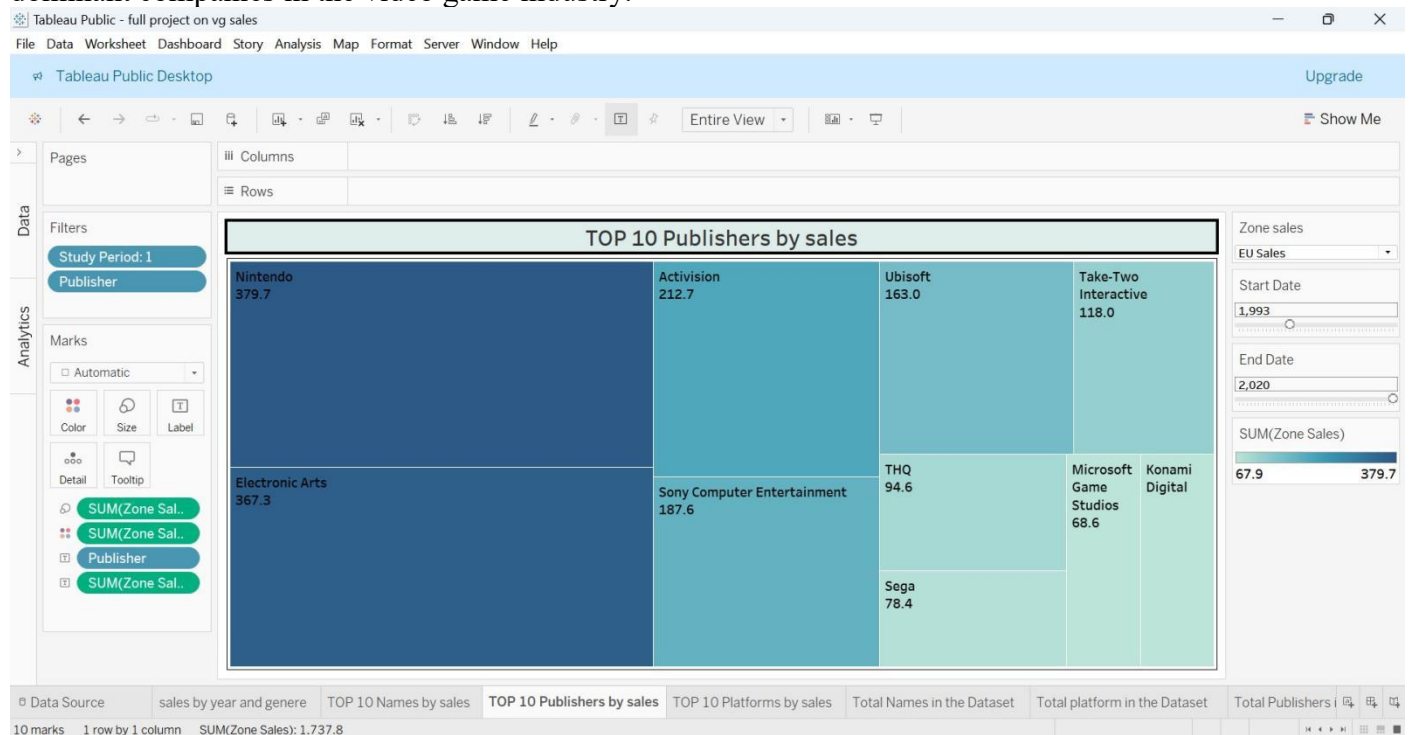


These analyses provide a deeper understanding of the video game market's dynamics across different dimensions.

# Dashboard:

After creating these different worksheets, I used them to build an interactive dashboard in Tableau. This dashboard integrates the various aspects of the analysis, allowing for a comprehensive and interactive view of the data. It enables easy exploration of video game sales trends across platforms, genres, publishers, and individual game titles. With all key insights from the worksheets brought together, the dashboard offers a holistic look at the video game industry over time.
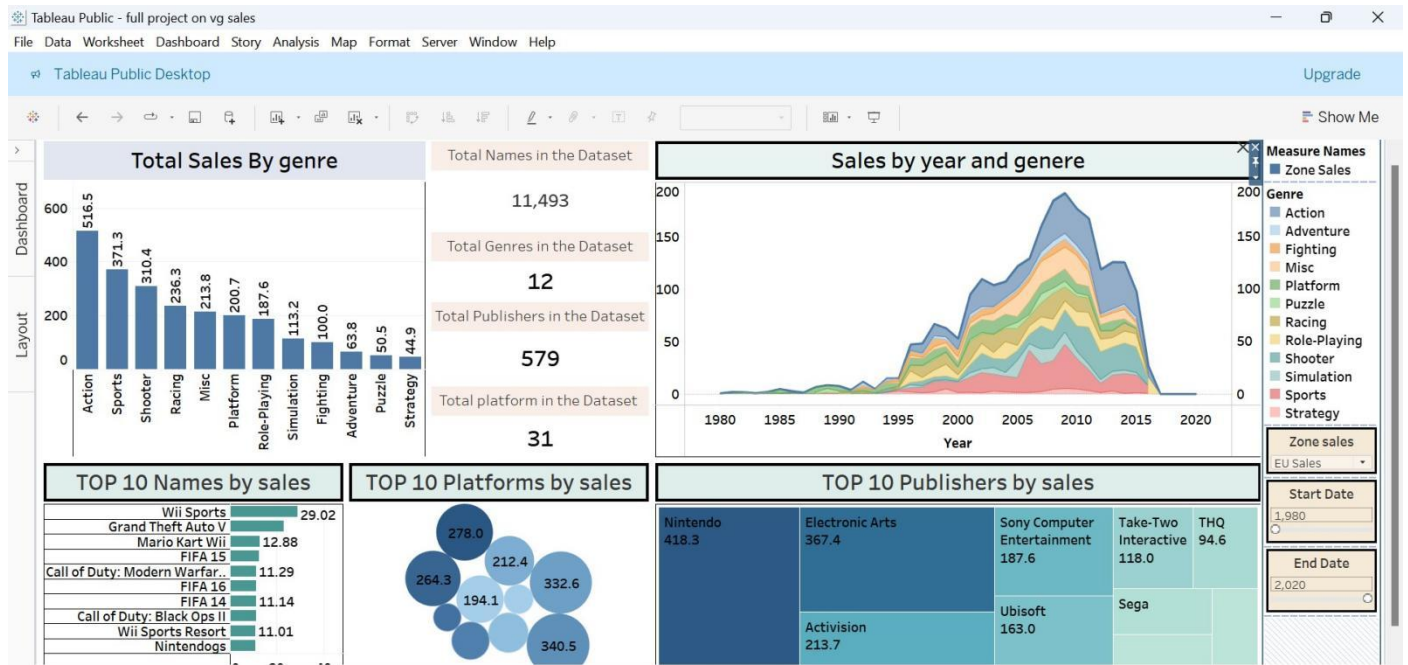


# Conclusion:

In this project, I analyzed the vgsales dataset to uncover significant trends in video game sales across platforms, genres, and regions. By creating individual worksheets for different aspects such as top platforms, total sales by genre, and top publishers, I was able to visualize key insights. The dashboard, which brings all these worksheets together, provides an interactive and comprehensive view of the data, allowing users to explore the dynamics of the video game industry over time.

From this analysis, it became clear that certain platforms and genres have consistently dominated sales, while a few publishers have played a significant role in shaping the industry. The dataset also highlights the evolving trends in gaming preferences across different regions. This analysis serves as a foundation for further exploration of the gaming market and can be a valuable tool for industry professionals to make informed decisions.

Overall, the vgsales dataset offers a detailed look into the historical sales performance of video games, providing meaningful insights into the factors that drive success in the gaming world.