**Video Games Sales Analysis By 41172002H 劉丞庭**

This project analyzes video game sales data from Kaggle to uncover trends, regional differences, and factors influencing game sales. This analysis uses the Video Games Sales dataset from Kaggle: <https://www.kaggle.com/datasets/ulrikthygepedersen/video-games-sales>

**Objective 1: Top 10 Best-Selling Video Games (Global Sales and Regional Sales)**

This objective aims to identify the top 10 best-selling video games globally and analyze their sales performance across different regions. The analysis includes global sales as well as a breakdown of sales in North America, Europe, Japan, and other regions. Visualizations are provided to highlight the top games and the distribution of sales across these regions.

**1.1 Global Sales Breakdown**

1. Sort the data by global\_sales in descending order to get the highest sales first.

2. Select the top 10 games based on their global sales.

3. Create a bar chart to visualize the top 10 best-selling games with their global sales.

A graph with different colored bars

AI-generated content may be incorrect.

**1.2 Regional Sales Breakdown**

1. For each top 10 game, use columns: na\_sales, eu\_sales, jp\_sales, and other\_sales.

2. Create a stacked horizontal bar chart showing the sales per region.

A graph of sales

AI-generated content may be incorrect.

**Key Findings**

Wii Sports is way ahead of everything else with over 80 million sales — way more than second place Super Mario Bros. at around 40 million. The rest of the top 10 also hover around the 30–40 million mark. From what I know, most of these games are from Nintendo. For regional sales, most of the revenue still comes from North America, even for games that were made in Japan. This shows how strong the U.S. market is overall.

**Objective 2: Video Game Sales Trends and Releases Over Time**

This objective examines how video game sales have evolved over time, focusing on the relationship between release years and sales figures. The analysis includes trends in global sales for games released each year, as well as the number of games released annually. The goal is to explore whether newer games are surpassing older ones in sales and to identify any patterns or shifts in the gaming industry over time.

**2.1 Global Sales Trend Over Time**

1. Select the year and global\_sales columns from the dataset.

2. Group the data by year and calculate the sum of global\_sales for each year.

3. Plot a line graph to show how total global sales have changed over the years.

A graph with blue lines

AI-generated content may be incorrect.

**2.2 Number of Games Released Per Year**

1. Select the year column from the dataset.

2. Count the Number of Games Released Each Year:

3. Group the data by year and count the number of games released each year.

4. Plot a bar chart to show the count of video games released each year.

A graph of a number of games

AI-generated content may be incorrect.

**Key Findings**

2008 is a standout year — both in terms of total game sales and the number of new releases. From 2000 to 2008, there's a clear upward trend in sales, but it starts to drop afterward (probably because recent years are missing from the data). After 2011, the number of games released each year suddenly drops and stays low, which might be because game studios started focusing more on making big AAA games that take longer to develop.

**Objective 3: Distribution of Global and Regional Sales by Genre and Platform**

This analysis explores how global and regional video game sales are distributed across different genres and platforms. By analyzing sales data for each genre and platform in different regions (North America, Europe, Japan, and other regions), we can uncover which genres and platforms are most dominant in specific regions.

**3.1 Genre Sales Distribution (Global and Regional)**

1. Aggregate the global sales by genre.

2. For each region (North America, Europe, Japan, Other), aggregate the regional sales by genre.

3. Plot a pie chart showing the global sales distribution by genre.

4. Plot separate pie charts for each region (NA, EU, JP, Other) showing the distribution of regional sales by genre.

A circular chart with different colored circles

AI-generated content may be incorrect.

**A group of pie charts

AI-generated content may be incorrect.**

**3.2 Platform Sales Distribution (Global and Regional)**

1. List all the platforms and prepare a mapping dictionary that assigns each platform to a broader platform group (e.g., PS2 → PlayStation).

2. Create a function that checks each platform and assigns it to its group using the mapping.

3. Apply the function to a new column in the dataset called 'platform\_group'.

4. Group the dataset by 'platform\_group' and sum up the 'global\_sales' and regional sales (na\_sales, eu\_sales, jp\_sales, other\_sales) for each group.

5. Create a pie chart for global and regional sales distribution across the platform groups.

A pie chart with numbers and text

AI-generated content may be incorrect.

**A group of pie charts

AI-generated content may be incorrect.**

**Key Findings**

Globally, action games sell the most, but the difference compared to other genres isn't super big. Regionally, Japan stands out with high RPG sales and lower action/shooter sales, while NA and EU have stronger sales for action and shooter genres. It's pretty clear Japan has its own taste. For platforms, PlayStation (39.4%) and Nintendo (33.7%) are the main ones globally. Xbox has decent shares in NA (19.8%) and EU (15.9%), but barely sells in Japan (1.1%).

**Conclusion**

This analysis reveals significant regional differences in video game preferences across markets. While North America dominates overall sales revenue, each region shows distinct preferences in genres and platforms. The data highlights 2008 as a peak year for the industry, with both sales and release numbers declining afterward, potentially indicating a shift toward fewer but larger game productions. Nintendo's strong presence in the top 10 global bestsellers demonstrates their historical importance in the industry, while the dramatic regional differences in platform adoption—particularly Xbox's minimal presence in Japan—reveal how culturally influenced gaming markets remain despite globalization. The Japanese market's preference for RPGs versus Western markets' affinity for action and shooter games further underscores how regional cultural preferences continue to shape the gaming landscape. These insights could be valuable for game developers and publishers when considering market-specific strategies.