**Toy Store Sales Performance and Trend Analysis**

**Objective:** The project aimed to analyze the sales data from a toy store chain to uncover trends, performance metrics, and insights that could help in decision-making. The analysis covered various aspects, including data cleaning, transformation, and sales performance evaluation across different time frames and product categories.

**Summary:** I completed a comprehensive SQL project focusing on the sales domain, specifically for a toy store. The project involved analyzing various datasets, including Sales, Products, Stores, and Inventory.

First, I created a database named toy\_stores\_sales\_DB and established tables to store data from the provided CSV files. Using SQL commands, I imported data into these tables, ensuring the data was correctly formatted and organized.

I started by creating the Sales table and bulk-inserting data from the Sales.csv file. Similar steps were taken for the products, stores, and tables, each corresponding to their respective CSV files. This involved creating tables and importing data while handling any inconsistencies.

Next, I focused on data cleaning and transformation. For instance, I checked for non-numeric values in numeric fields and removed anomalies. I converted columns to appropriate data types and handled formatting issues in the Date fields. Additionally, I wrote a function to remove non-numeric characters from columns that were supposed to be numeric.

I then examined the data for duplicate records. Using SQL queries, I identified and removed duplicates in the products table, ensuring data integrity across the dataset.

After cleaning the data, I added constraints to enforce data integrity. For example, I set primary keys on columns like sales\_id, products\_id, and store\_id created foreign key relationships to link the tables meaningfully. This ensured that each record in the sales table referred to valid stores and products.

With the data prepared and constraints in place, I conducted a series of analyses to gain insights into sales trends and store performance. I analyzed sales trends over time, identifying the start and end dates of the sales data and calculating the total sales period. I also broke down sales by year, quarter, and month, comparing sales volumes between different periods.

Additionally, I evaluated store performance by calculating total units sold and revenue for each store location. I identified the top-performing stores in terms of revenue and analyzed product categories to determine which products were most popular.

To understand inventory turnover, I analyzed the cost of goods sold (COGS) and average inventory levels, calculating the inventory turnover ratio for different years. This helped in assessing how efficiently the store managed its inventory.

I also explored sales trends for specific product categories, such as Electronics, by comparing sales in the first two quarters with the last two quarters of the year. This analysis highlighted changes in sales patterns and provided insights into seasonal trends.

Finally, I generated a comprehensive report on product performance, including total sales, profit, average sales, and total cost for each product. I identified the top five products based on these metrics, offering a detailed overview of the best-performing items in the store.

**Conclusion:** This project involved a comprehensive analysis of toy store sales data using SQL. By cleaning and transforming data from sales, products, stores, and inventory tables, I ensured data integrity and consistency. Key findings included identifying top-performing stores and products, understanding sales trends over time, and evaluating inventory turnover. The analysis revealed seasonal sales patterns and highlighted the most profitable and popular products, providing valuable insights for strategic decision-making in the toy store.