Maven Toy Data Analysis using SQL

Name: Sanjay N. Ingawale
Batch No.: MIP-DA-14
Profile: Data Analyst Intern
Email Id: ingawalesanjay@gmail.com

Maven Toy Data Analysis using SQL

Overview

- Using SQL to query and analyze provided Maven Toy Store data set.
- The aim of this SQL project is to analyze the toy sales data to gain insights into inventory management, product performance, sales trends, and store operations. The analysis will be performed using four tables: inventory, products, sales, and stores.

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

Data Set

1. Inventory

- Store_ID: Unique identifier for the store.
- Product_ID: Unique identifier for the product.
- Stock_On_Hand: Number of units available in stock.

2. Products

- Product_ID: Unique identifier for the product.
- Product_Name: Name of the product.
- Product_Category: Category of the product (e.g., educational, plush, action figures, etc.).
- Product_Cost: Cost price of the product.
- Product_Price: Selling price of the product.

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

Data Set

3. Sales.

- Sale_ID: Unique identifier for the sale.
- Date: Date the sale was made.
- Store_ID: Identifier linking to the stores table.
- Product_ID: Identifier linking to the products table.
- Units: Number of units sold.

4. Stores

- Store_ID: Unique identifier for the store.
- Store_Name: Name of the store.
- Store_City: City where the store is located.
- Store_Location: Location details of the store.
- Store_Open_Date: Date when the store was opened.

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

1. Total sales revenue generated by each store?

Q-1

```
USE mentorness;
GO

-- 1. Total sales revenue generated by each store
SELECT s.Store_Name, SUM(p.Product_Price * sa.Units) AS Total_Revenue
FROM Sales sa
JOIN Products p ON sa.Product_ID = p.Product_ID
JOIN Stores s ON sa.Store_ID = s.Store_ID
GROUP BY s.Store_Name;
```

Results | Messages

Store_Name	Total_Revenue
Maven Toys Aguascalientes 1	239997.35
Maven Toys Campeche 1	311786.44
Maven Toys Campeche 2	206055.23
Maven Toys Chetumal 1	258919.35
Maven Toys Chihuahua 1	248008.30
Maven Toys Chihuahua 2	268704.74

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

2. Which products are the top-selling in terms of units sold?

Q-2

```sql
-- 2. Top-selling products in terms of units sold
SELECT p.Product_Name, SUM(sa.Units) AS Total_Units_Sold
FROM Sales sa
JOIN Products p ON sa.Product_ID = p.Product_ID
GROUP BY p.Product_Name
ORDER BY Total_Units_Sold DESC;
```

esults | Messages

Product_Name	Total_Units_Sold
Colorbuds	104368
PlayDoh Can	103128
Barrel O' Slime	91663
Deck Of Cards	84034
Magic Sand	60598
Splash Balls	60248
Lego Bricks	59737
Action Figure	57958

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

3. What is the sales performance by product category?

Q-3

```sql
SELECT p.Product_Catery, SUM(p.Product_Price * sa.Units) AS Total_Revenue
FROM Sales sa
JOIN Products p ON sa.Product_ID = p.Product_ID
GROUP BY p.Product_Catery
ORDER BY Total_Revenue DESC;
```

Results | Messages

Product_Name	Total_Units_Sold
Colorbuds	104368
PlayDoh Can	103128
Barrel O' Slime	91663
Deck Of Cards	84034
Magic Sand	60598
Splash Balls	60248
Lego Bricks	59737
Action Figure	57958

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

4. What are the current inventory levels for each product at each store?

Q-4

```
SELECT s.Store_Name, p.Product_Name, i.Stock_On_Hand
, (i.Stock_On_Hand * p.Product_Cost) AS Stock_Cost_Amt, (i.Stock_On_Hand * p.Product_Price) AS Stock_Amt
FROM inventory i
JOIN Stores s ON i.Store_ID = s.Store_ID
JOIN Products p ON i.Product_ID = p.Product_ID
ORDER BY i.Store_ID, i.Product_ID;
```

Results | Messages

Store_Name	Product_Name	Stock_On_Hand	Stock_Cost_Amt	Stock_Amt
Maven Toys Guadalajara 1	Action Figure	27	269.73	431.73
Maven Toys Guadalajara 1	Animal Figures	0	0.00	0.00
Maven Toys Guadalajara 1	Barrel O' Slime	32	63.68	127.68
Maven Toys Guadalajara 1	Chutes & Ladders	6	59.94	77.94
Maven Toys Guadalajara 1	Classic Dominoes	0	0.00	0.00
Maven Toys Guadalajara 1	Colorbuds	79	552.21	1184.21
Maven Toys Guadalajara 1	Dart Gun	5	59.95	79.95
Maven Toys Guadalajara 1	Deck Of Cards	63	251.37	440.37

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

5. How do monthly sales trends vary across different stores?

Q-5

```sql
SELECT s.Store_Name, FORMAT(sa.Date, 'yyyy-MM') AS Sales_Month, SUM(p.Product_Price * sa.Units) AS Monthly_Sales
FROM Sales sa
JOIN Products p ON sa.Product_ID = p.Product_ID
JOIN Stores s ON sa.Store_ID = s.Store_ID
GROUP BY s.Store_Name, FORMAT(sa.Date, 'yyyy-MM')
ORDER BY s.Store_Name, Sales_Month;
```

Results | Messages

Store_Name	Sales_Month	Monthly_Sales
Maven Toys Aguascalientes 1	2017-01	11317.76
Maven Toys Aguascalientes 1	2017-02	12075.53
Maven Toys Aguascalientes 1	2017-03	10437.46
Maven Toys Aguascalientes 1	2017-04	10670.79
Maven Toys Aguascalientes 1	2017-05	18686.50
Maven Toys Aguascalientes 1	2017-06	10539.62
Maven Toys Aguascalientes 1	2017-07	9719.19
Maven Toys Aguascalientes 1	2017-08	5819.54
Maven Toys Aguascalientes 1	2017-09	12476.72

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

6. Which stores have the highest and lowest sales performance?

Q-6

```sql
SELECT sls.Store_ID, s.Store_Name, SUM(sls.Units * p.Product_Price) AS Sales_Amt
FROM Sales sls
JOIN Stores s ON sls.Store_ID = s.Store_ID
JOIN Products p ON sls.Product_ID = p.Product_ID
GROUP BY sls.Store_ID, s.Store_Name
ORDER BY Sales_Amt DESC;
```

Results | Messages

Store_ID	Store_Name	Sales_Amt
31	Maven Toys Ciudad de Mexico 2	554553.43
30	Maven Toys Guadalajara 3	449354.91
9	Maven Toys Ciudad de Mexico 1	433556.21
17	Maven Toys Toluca 1	411157.32
7	Maven Toys Monterrey 2	372998.82
46	Maven Toys Guadalajara 4	348466.64
42	Maven Toys Hermosillo 3	344846.64
39	Maven Toys Xalapa 2	344307.04
37	Maven Toys Ciudad de Mexico 3	337424.66

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

7. What is the profit margin for each product?

Q-7

```
SELECT p.Product_Name, (p.Product_Price - p.Product_Cost) AS Profit_Margin
FROM Products p;
```

Results | Messages

Product_Name	Profit_Margin
Action Figure	6.00
Animal Figures	3.00
Barrel O' Slime	2.00
Chutes & Ladders	3.00
Classic Dominoes	2.00
Colorbuds	8.00
Dart Gun	4.00
Deck Of Cards	3.00
Dino Egg	1.00

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

8. How are sales distributed across different cities?

Q-8

```sql
SELECT s.Store_City, SUM(p.Product_Price * sa.Units) AS Total_Sales
FROM Sales sa
JOIN Products p ON sa.Product_ID = p.Product_ID
JOIN Stores s ON sa.Store_ID = s.Store_ID
GROUP BY s.Store_City;
```

20 %

Results | Messages

	Store_City	Total_Sales
1	Aguascalientes	239997.35
2	Campeche	517841.67
3	Chetumal	258919.35
4	Chihuahua	516713.04
5	Chilpancingo	242539.73
6	Ciudad Victoria	294803.99
7	Cuernavaca	221587.26
8	Cuidad de Mexico	1649492.01

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

9. Which products are out of stock in each store?

Q-9

```
SELECT s.Store_Name, p.Product_Name
FROM Inventory i
JOIN Products p ON i.Product_ID = p.Product_ID
JOIN Stores s ON i.Store_ID = s.Store_ID
WHERE i.Stock_On_Hand = 0;
```

Results | Messages

Product_Name	Profit_Margin
Action Figure	6.00
Animal Figures	3.00
Barrel O' Slime	2.00
Chutes & Ladders	3.00
Classic Dominoes	2.00
Colorbuds	8.00
Dart Gun	4.00
Deck Of Cards	3.00
Dino Egg	1.00

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

10. How do sales vary by specific dates?

Q-10

```sql
SELECT sa.Date, SUM(p.Product_Price * sa.Units) AS Total_Sales
FROM Sales sa
JOIN Products p ON sa.Product_ID = p.Product_ID
GROUP BY sa.Date
ORDER BY sa.Date;
```

Results | Messages

Date	Total_Sales
2017-01-01	21076.15
2017-01-02	19750.94
2017-01-03	11759.50
2017-01-04	14814.40
2017-01-05	19791.30
2017-01-06	25685.54
2017-01-07	21927.21
2017-01-08	22253.00

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

11. What is the average cost of products in each category?

Q-11

```
SELECT p.Product_Category, AVG(p.Product_Cost) AS Average_Cost
FROM Products p
GROUP BY p.Product_Category;
```

Results | Messages

Product_Category	Average_Cost
Art & Crafts	8.99
Electronics	14.3233
Games	8.365
Sports & Outdoors	10.2757
Toys	11.6566

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

12. What is the sales growth over time for the entire company?

Q-12

```sql
SELECT FORMAT(sa.Date, 'yyyy-MM') AS Sales_Month, SUM(p.Product_Price * sa.Units) AS Monthly_Sales
FROM Sales sa
JOIN Products p ON sa.Product_ID = p.Product_ID
GROUP BY FORMAT(sa.Date, 'yyyy-MM')
ORDER BY Sales_Month;
```

20 %

Results | Messages

Product_Category	Average_Cost
Art & Crafts	8.99
Electronics	14.3233
Games	8.365
Sports & Outdoors	10.2757
Toys	11.6566

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

13. How does the store open date affect sales performance?

Q-13

```sql
SELECT s.Store_Name, s.Store_Open_Date, SUM(p.Product_Price * sa.Units) AS Total_Sales
FROM Sales sa
JOIN Products p ON sa.Product_ID = p.Product_ID
JOIN Stores s ON sa.Store_ID = s.Store_ID
GROUP BY s.Store_Name, s.Store_Open_Date
ORDER BY s.Store_Open_Date;
```

Results | Messages

Store_Name	Store_Open_Date	Total_Sales
Maven Toys Guadalajara 1	1992-09-18	261842.89
Maven Toys Monterrey 1	1995-04-27	277959.14
Maven Toys Guadalajara 2	1999-12-27	262435.02
Maven Toys Saltillo 1	2000-01-01	330408.90
Maven Toys La Paz 1	2001-05-31	210897.83
Maven Toys Mexicali 1	2003-12-13	294019.42
Maven Toys Monterrey 2	2003-12-25	372998.82
Maven Toys Pachuca 1	2004-10-14	237676.15

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

14. What percentage of total sales does each store contribute?

Q-14

```sql
WITH StoreSales AS (
    SELECT s.Store_Name, SUM(p.Product_Price * sa.Units) AS Total_Revenue
    FROM Sales sa
    JOIN Products p ON sa.Product_ID = p.Product_ID
    JOIN Stores s ON sa.Store_ID = s.Store_ID
    GROUP BY s.Store_Name)
SELECT Store_Name, Total_Revenue,
       ROUND(CAST((Total_Revenue * 100.0) / (SELECT SUM(Total_Revenue) FROM StoreSales) AS DECIMAL(18, 2)), 2) AS Percentage_Contribution
FROM StoreSales;
```

Results | Messages

Store_Name	Total_Revenue	Percentage_Contribution
Maven Toys Aguascalientes 1	239997.35	1.66
Maven Toys Campeche 1	311786.44	2.16
Maven Toys Campeche 2	206055.23	1.43
Maven Toys Chetumal 1	258919.35	1.79
Maven Toys Chihuahua 1	248008.30	1.72
Maven Toys Chihuahua 2	268704.74	1.86
Maven Toys Chilpancingo 1	242539.73	1.68

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

15. How do sales compare to current stock levels for each product?

Q-15

```sql
SELECT p.Product_Name, COALESCE(SUM(sa.Units), 0) AS Total_Units_Sold, i.Stock_On_Hand
FROM Products p
LEFT JOIN Sales sa ON p.Product_ID = sa.Product_ID
LEFT JOIN Inventory i ON p.Product_ID = i.Product_ID
GROUP BY p.Product_Name, i.Stock_On_Hand;
```

%

Results | Messages

Product_Name	Total_Units_Sold	Stock_On_Hand
Glass Marbles	37518	67
Magic Sand	121196	28
Splash Balls	60248	24
Uno Card Game	5420	19
Kids Makeup Kit	24433	13
Magic Sand	60598	51
Colorbuds	104368	55

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

Insights &Recommendations

- Inventory Management: Consistent tracking of inventory levels against sales can help maintain optimal stock levels, reducing overstock and minimizing the risk of stockouts.
- Sales Strategies: Focus on top-performing products and categories by enhancing promotional activities around them. For underperforming items, consider discounting, bundling, or phasing out.
- Store Performance: Invest more in high-performing stores and analyze the operational challenges faced by underperforming ones to make targeted improvements.
- Geographical Focus: Increase marketing efforts in cities with high sales and explore opportunities to enhance brand presence in lower-performing cities.
- Profit Optimization: Regularly review product pricing and cost to ensure profitability, especially focusing on high-margin products that can drive better overall profitability.

Name: Sanjay N. Ingawale

Maven Toy Data Analysis using SQL

Thanks !!

Name: Sanjay N. Ingawale
Batch No.: MIP-DA-14
Profile: Data Analyst Intern
Email Id: ingawalesanjay@gmail.com