



MINTCLASS

BUSINESS PROJECT

[HTTPS://WWW.LINKEDIN.COM/IN/MONIRUL-M08/](https://www.linkedin.com/in/monirul-m08/)

CONTENT

- 01** ABOUT US
- 02** OBJECTIVES
- 03** OUR SERVICES
- 04** QUESTIONS
- 05** QUERIES
- 06** STRATEGY
- 07** SOLUTION

ABOUT US



In this project, you will step into the shoes data analyst at the fictional Mint Classics Company.



helping to analyze data in a relational database with the goal of supporting inventory-related business decisions that lead to the closure of a storage facility.





PROJECT TIMELINE

- It takes approximately 8-10 hours to complete this project

GOALS AND OBJECTIVES

Objective n° 1

Explore products currently in inventory.

Objective n° 2

Determine important factors that may influence inventory reorganization/reduction

Objective n° 3

Provide analytic insights and data-driven recommendations.



VALUES

Mission



- *I will then need to isolate and identify those parts of the data that could be useful in deciding how to reduce inventory.*

- *suggestions and recommendations for reducing inventory with the goal of closing one of the storage facilities.*

Vision



CONCEPT IN BUSINESS

- *Mint Classics Company, a retailer of classic model cars and other vehicles.*
- *You will then need to isolate and identify those parts of the data that could be useful in deciding how to reduce inventory.*



Answer questions like these:

01

Where are items stored
and if they were
rearranged, could a
warehouse be
eliminated?

02

How are inventory
numbers related to sales
figures? Do the inventory
counts seem appropriate
for each item?.

03

storing items that are
not moving? Are any
items candidates for
being dropped from the
product line?

- Check Products with Low Stock Levels

SELECT

productCode, productname, SUM(quantityInStock)

FROM

products

WHERE

quantityInStock < 1000

GROUP BY productcode

ORDER BY quantityInStock A_

	<i>productCode</i>	<i>productname</i>	<i>SUM(quantityInStock)</i>
▶	S24_2000	1960 BSA Gold Star DBD34	15
	S12_1099	1968 Ford Mustang	68
	S32_4289	1928 Ford Phaeton Deluxe	136
	S32_1374	1997 BMW F650 ST	178
	S72_3212	Pont Yacht	414
	S18_2248	1911 Ford Town Car	540
	S18_2795	1928 Mercedes-Benz SSK	548

-- Total Quantity of Products in
Inventory by Category

SELECT

productLine,

*SUM(quantityInStock) AS
total_quantity*

FROM

products

GROUP BY productLine

ORDER BY total_quantity DESC;

Result Grid | Filter Rows:

	productLine	total_quantity
▶	Classic Cars	219183
	Vintage Cars	124880
	Motorcycles	69401
	Planes	62287
	Trucks and Buses	35851
	Ships	26833
	Trains	16696

-- Track Inventory Changes Over Time

SELECT

products.productName,
products.quantityInStock,
products.productLine,
orderdetails.quantityOrdered,
orders.requiredDate

FROM

products

JOIN

orderdetails ON products.productCode = orderdetails.productCode

JOIN

orders ON orders.orderNumber = orderdetails.orderNumber

WHERE

orders.requiredDate >= '2005-06-11' - INTERVAL 30 DAY

	productName	quantityInStock	productLine	quantityOrdered	requiredDate
▶	1937 Lincoln Berline	8693	Vintage Cars	51	2005-06-11
	1936 Mercedes-Benz 500K Special Roadster	8635	Vintage Cars	25	2005-06-11
	1952 Alpine Renault 1300	7305	Classic Cars	50	2005-06-08
	1958 Setra Bus	1579	Trucks and Buses	49	2005-06-08
	1940 Ford Pickup Truck	2613	Trucks and Buses	54	2005-06-08
	1939 Cadillac Limousine	6645	Vintage Cars	26	2005-06-08
	1995 Mitsubishi 3700 Club Cab with Options	814	Trucks and Buses	44	2005-06-08

-- Find Products Not Sold Recently but Still in Stock

```
SELECT
    products.productCode,
    products.productName,
    products.quantityInStock,
    orderdetails.quantityOrdered
FROM
    products
        JOIN
    orderdetails ON products.productCode = orderdetails.productCode
        left join
    orders ON orders.orderNumber = orderdetails.orderNumber
WHERE
    orders.orderDate IS NULL
        OR orders.orderDate < '2005-05-31' - INTERVAL 90 DAY
        AND products.quantityInStock > 0
        order by orderdetails.quantityOrdered asc ;
```

productCode	productName	quantityInStock	quantity
S32_1374	1997 BMW F650 ST	178	20
S24_1937	1939 Chevrolet Deluxe Coupe	7332	20
S24_3420	1937 Horch 930V Limousine	2902	20
S12_4675	1969 Dodge Charger	7323	20
S24_1444	1970 Dodge Coronet	4074	20
S24_4048	1992 Porsche Cayenne Turbo Silver	6582	20

-- Check Sales Figures for Each Item:

SELECT

productName, SUM(quantityOrdered) AS total_sales

FROM

orderdetails

JOIN

products ON p

orderdetails.productCode

GROUP BY productName;

	<i>productName</i>	<i>total_sales</i>
1	1969 Harley Davidson Ultimate Chopper	1057
2	1952 Alpine Renault 1300	961
3	1996 Moto Guzzi 1100i	999
4	2003 Harley-Davidson Eagle Drag Bike	985
5	1972 Alfa Romeo GTA	1030

-- Join Inventory and Sales Data:

SELECT

products.productCode,

products.productName,

SUM(products.quantityInStock),

SUM(orderdetails.quantityOrdered) AS total_sales

FROM

products

LEFT JOIN

orderdetails ON orderdetails.productCode = products.productCode

GROUP BY products.productCode, products.productName

ORDER BY total_sales ASC;

productCode	productName	SUM(products.quantityInStock)	total_sales
S18_3233	1985 Toyota Supra	7733	NULL
S18_4933	1957 Ford Thunderbird	77016	767
S24_1046	1970 Chevy Chevelle SS 454	25125	803
S24_3969	1936 Mercedes Benz 500k F 1970 Chevy Chevelle SS 454	1970 Chevy Chevelle SS 454	824
S18_2248	1911 Ford Town Car	13500	832
S18_2870	1999 Ford 500 Monte Carlo SS	204100	855

-- IDENTIFY OVERSTOCK OR UNDERSTOCK SITUATIONS:

```
SELECT
    PRODUCTS.PRODUCTCODE,
    PRODUCTS.PRODUCTNAME,
    SUM(PRODUCTS.QUANTITYINSTOCK) AS TOTAL_STOCK,
    SUM(ORDERDETAILS.QUANTITYORDERED) AS TOTAL_SALES,
    CASE
        WHEN SUM(PRODUCTS.QUANTITYINSTOCK) > (SUM(ORDERDETAILS.QUANTITYORDERED) * 2) THEN
            'OVERSTOCK'
        WHEN SUM(PRODUCTS.QUANTITYINSTOCK) < SUM(ORDERDETAILS.QUANTITYORDERED) THEN
            'UNDERSTOCK'
        ELSE 'BALANCED'
    END AS STOCK_STATUS
FROM
    PRODUCTS
    LEFT JOIN
        ORDERDETAILS ON PRODUCTS.PRODUCTCODE = ORDERDETAILS.PRODUCTCODE
GROUP BY PRODUCTS.PRODUCTCODE , PRODUCTS.PRODUCTNAME
ORDER BY CASE
        WHEN SUM(PRODUCTS.QUANTITYINSTOCK) > (SUM(ORDERDETAILS.QUANTITYORDERED) * 2)
        THEN 1
        WHEN SUM(PRODUCTS.QUANTITYINSTOCK) < SUM(ORDERDETAILS.QUANTITYORDERED) THEN 2
        ELSE 3
    END;
```

productCode	productName	total_stock	total_sales	stock_status
S10_1678	1969 Harley Davidson Ultimate Chopper	222124	1057	overstock
S10_1949	1952 Alpine Renault 1300	204540	961	overstock
S10_2016	1996 Moto Guzzi 1100i	185500	999	overstock
S10_4698	2003 Harley-Davidson Eagle Drag Bike	156296	985	overstock

-- IDENTIFYING AGED INVENTORY:

```
SELECT
    PRODUCTS.PRODUCTCODE,
    PRODUCTS.PRODUCTNAME,
    SUM(PRODUCTS.QUANTITYINSTOCK) AS TOTAL_STOCK,
    ORDERS.ORDERDATE,
    IFNULL(SUM(ORDERDETAILS.QUANTITYORDERED), 0) AS TOTAL_SALES
FROM
    PRODUCTS
    JOIN
    ORDERDETAILS ON PRODUCTS.PRODUCTCODE = ORDERDETAILS.PRODUCTCODE
    JOIN
    ORDERS ON ORDERDETAILS.ORDERNUMBER = ORDERS.ORDERNUMBER
GROUP BY PRODUCTS.PRODUCTCODE , PRODUCTS.PRODUCTNAME , ORDERS.ORDERDATE
HAVING DATEDIFF('2005-05-31', ORDERS.ORDERDATE) > 180
    AND TOTAL_SALES = 0
    OR TOTAL_SALES <= 20
ORDER BY ORDERS.ORDERDATE ASC; -- OLDEST ITEMS FIRST
```

productCode	productName	total_stock	orderDate	total_sales
S32_1374	1997 BMW F650 ST	178	2003-02-24	20
S24_1937	1939 Chevrolet Deluxe Coupe	7332	2003-03-18	20
S24_3420	1937 Horch 930V Limousine	2902	2003-04-28	20
S12_4675	1969 Dodge Charger	7323	2003-05-08	20
S24_1444	1970 Dodge Coronet	4074	2003-06-03	20

-- CANDIDATES FOR DISCONTINUATION:

SELECT
 PRODUCTS.PRODUCTCODE,
 PRODUCTS.PRODUCTNAME,
 PRODUCTS.QUANTITYINSTOCK AS TOTAL_STOCK,
 COUNT(ORDERS.ORDERDATE) AS SALE_OCCURRENCES,
 IFNULL(SUM(ORDERDETAILS.QUANTITYORDERED), 0) AS TOTAL_SALES

FROM
 PRODUCTS

JOIN

productCode	productName	total_stock	sale_OCCURRENCES	total_sales
S24_3969	1936 Mercedes Benz 500k Roadster	2081	2	30
S24_3191	1969 Chevrolet Camaro Z28	4695	2	48

ORDERDETAILS ON PRODUCTS.PRODUCTCODE = ORDERDETAILS.PRODUCTCODE

JOIN

ORDERS ON ORDERDETAILS.ORDERNUMBER = ORDERS.ORDERNUMBER

WHERE ORDERS.ORDERDATE >= DATE_SUB('2005-05-31', INTERVAL 3 MONTH) -- LAST
12 MONTH

GROUP BY PRODUCTS.PRODUCTCODE , PRODUCTS.PRODUCTNAME

HAVING TOTAL_SALES <= 50 -- PRODUCT WITH FEWER THEN 50 SALES IN THE LAST YEAR
ORDER BY TOTAL_SALES ASC;

```
SELECT products.productName, warehouses.warehouseName,
       SUM(IFNULL(products.quantityInStock, 0)) AS total_stock,
       SUM(IFNULL(orderdetails.quantityOrdered, 0)) AS total_sales
  FROM products
 join orderdetails on products.productCode =
 orderdetails.productCode
 JOIN warehouses ON products.warehouseCode =
 warehouses.warehouseCode
 GROUP BY products.productName, warehouses.warehouseName;
```

productName	warehouseName	total_stock	total_sales
1969 Harley Davidson Ultimate Chopper	North	222124	1057
1996 Moto Guzzi 1100i	North	185500	999
2003 Harley-Davidson Eagle Drag Bike	North	156296	985

-- provides a summary of each warehouse's stock and orders

```
SELECT products.warehouseCode,  
       SUM(IFNULL(products.quantityInStock, 0)) AS  
total_stock,  
       SUM(IFNULL(orderdetails.quantityOrdered, 0)) AS  
total_ordered
```

FROM products

JOIN orderdetails

ON

products.productCode = orderdetails.productCode

GROUP BY products.warehouseCode;

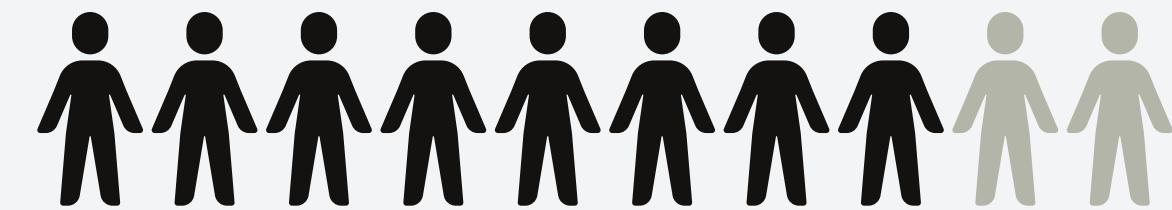
warehouseCode	total_stock	total_ordered
a	3659553	24650
b	5844033	35582
c	3439570	22933
d	2186871	22351

STATISTICS

In managing aged inventory, statistics are essential for tracking and optimizing stock. Key metrics include:

1. Inventory Turnover Ratio: Measures how quickly stock is sold. A higher ratio means faster sales.
2. Days Sales of Inventory (DSI): Calculates the average time products stay in stock. A lower DSI is ideal.
3. ABC Analysis: Classifies inventory into A (high value), B (moderate value), and C (low value) to prioritize management efforts.
4. Forecasting Models: Use historical data to predict future demand, helping prevent overstock.

80%



SOLUTION

Inventory Management:



If Mint Classics Company is facing issues with stock management (similar to the data you uploaded about warehouses and stock levels), a comprehensive inventory management system can be implemented.

- Implement an automated inventory tracking system that integrates sales, stock levels, and purchase orders.
- Use reorder thresholds and set automatic alerts when stock levels are low.
- Maintain a centralized database with real-time updates on warehouse stock to reduce discrepancies.
- Regularly analyze the total stock and total ordered quantities to balance inventory levels and avoid overstocking or stockouts.

STRATEGY N°1

SOLUTION

Sales Forecasting and Demand Planning:



Predicting demand accurately is crucial for reducing excess inventory and stock shortages.

- Use machine learning models to analyze historical sales data and predict future demand.
- Implement demand forecasting tools that take into account seasonal fluctuations, market trends, and consumer behavior.
- Use forecasts to adjust inventory levels, optimize stock replenishment, and plan marketing campaigns around demand spikes.

STRATEGY N°2

SOLUTION

Supply Chain Optimization:



If Mint Classics is experiencing inefficiencies in the supply chain or logistics, an optimized supply chain process could help improve overall efficiency.

- Use data analytics to track delivery times, stock movement, and supplier performance.
- Streamline supplier relationships by ensuring that order processing is seamless and delivery schedules are optimized.
- Introduce warehouse optimization techniques such as reducing transit time within the warehouse, utilizing space effectively, and improving picking strategies.

STRATEGY N°3

SOLUTION

Data-Driven Decision Making:



If Mint Classics lacks a unified system for leveraging data, then implementing a system that consolidates data from different sources would be beneficial.

- Create a dashboard that shows key performance indicators (KPIs) like sales, warehouse stock, order fulfillment times, etc.
- Conduct regular data audits to ensure the accuracy of the data used in decision-making.
- Provide actionable insights based on business intelligence tools to guide strategic decisions.

STRATEGY N°4

SOLUTION

Digital Transformation:



If the company is transitioning to more digital methods, it may need support with e-commerce or internal digital tools.

- Build or optimize an e-commerce platform if the company sells products online.
- Ensure that ERP (Enterprise Resource Planning) software integrates all core business functions, including inventory, supply chain, customer service, and sales.
- Incorporate AI-driven solutions for automating repetitive tasks such as order processing, data entry, and customer support

STRATEGY N°5

THANK'S FOR WATCHING

You're welcome! I'm glad I could assist you see with project. If you need any further help in the future reach out.

Wishing me all the best with work and continued success! 😊



.S.

MINTCLASS.