**Vending Machine Sales**

This dataset represents vending machine data from various locations in Central New Jersey. The locations include a library, a mall, office location and a manufacturing locations.

**The location and machine data is as follows:**

* Gutten Plans - Frozen dough specialist company that operates 24/5 .Vending machine assigned is GuttenPlans x1367.
* EB Public Library - Public library that has high foot traffic 5-6 days a week. Vending machine assigned is EB Public Library x1380.
* Brunswick Sq Mall - Mall with average foot traffic 7 days a week. Vending machine(s) assigned are BSQ Mall x1366 – ATT and BSQ Mall x1364 – Zales.
* Earle Asphalt - A construction engineering firm that operates 5 days a week. Vending machine assigned is Earle Asphalt x1371.

1. **Ask**
2. **Prepare**

**About this file**

This file has the following attributes

* Status : Represents if the machine data is successfully processed
* Device ID : Unique electronic identifier ( also called as ePort) for the vending machine. A machine is allocated a unique ePrt \* device
* Location : Indicates location of the vending machine
* Machine : User-friendly machine name
* Product : Product vended from the machine
* Category : Carbonated / Food / Non-carbonated / Water
* Transaction : Unique identifier for every transaction
* TransDate : The Date & time of transaction
* Type : Type of transaction ( Cash / Credit )
* RCoil : Coil # used to vend the product
* RPrice : Price of the Product
* RQty : Quantity sold. This is usually one but machines can be configured to sell more items in a single transaction
* MCoil : Mapped coil # used to vend the product ( from toucan )
* MPrice : Mapped price of the Product
* MQty : Mapped quantity sold. This is usually one but machines can be configured to sell more items in a single transaction
* LineTotal : Total sale per transaction
* TransTotal : Represents total of all transactions that will show up on the Credit Card. A user could vend a drink for $3 and a snack for $1.5 making a total of $4.50
* Prcd Date : Date when the transaction was processed by SeedLive ( an entity that is used to aggregate all transactions electronically )

1. **Process**

Let´s preview our dataset and rename columns.

USE vending\_machine;

SELECT \*

FROM vending\_machine\_sales;

ALTER TABLE vending\_machine\_sales

RENAME COLUMN `Device ID` TO Device\_id;

SELECT\*

FROM vending\_machine.vending\_machine\_sales;

Take a look at our columns names and types, and then inspect each one of them individually.

DESCRIBE vending\_machine.vending\_machine\_sales

* **Status column**

There is only one status: “Processed”.

SELECT status

FROM vending\_machine.vending\_machine\_sales

GROUP BY status

SELECT COUNT(DISTINCT status)

FROM vending\_machine.vending\_machine\_sales

* **Device\_id**

There are 5 machines, and 2 of them are at the same place: Brunswick Sq Mall.

SELECT device\_id

FROM vending\_machine.vending\_machine\_sales

GROUP BY device\_id

SELECT device\_id, location, machine

FROM vending\_machine.vending\_machine\_sales

GROUP BY device\_id

* **Product**

There are 171 different products. I removed 3 nulls.

SELECT COUNT(DISTINCT product)

FROM vending\_machine.vending\_machine\_sales

SELECT count(product)

FROM vending\_machine.vending\_machine\_sales

WHERE product=""

* **Category**

There are 4 product categories: carbonated, non carbonated, water, food. I also removed 184 nulls.

SELECT category

FROM vending\_machine.vending\_machine\_sales

GROUP BY Category

SELECT COUNT(DISTINCT category)

FROM vending\_machine.vending\_machine\_sales

SELECT category, product

FROM vending\_machine.vending\_machine\_sales

ORDER BY category DESC

SELECT COUNT(category)

FROM vending\_machine.vending\_machine\_sales

WHERE category=""

* **Transaction**

There are duplicates, but that is normal since one transaction can have more than one product.

SELECT transaction, count( transaction)

FROM vending\_machine.vending\_machine\_sales

GROUP BY transaction

HAVING COUNT(transaction)>1

* **PrcDate**

The first transaction occurred on 1/1/2022 and the last one on 8/9/2022.

SELECT min(`Prcd Date`), max(`Prcd Date`)

FROM vending\_machine.vending\_machine\_sales

* **Type**

There are 2 types of transactions: cash and credit.

SELECT type

FROM vending\_machine.vending\_machine\_sales

GROUP BY type

* **MPrice**

I removed a row once there is a null value.

SELECT mprice

FROM vending\_machine.vending\_machine\_sales

WHERE mprice=""

1. **Analyze**

We can check how many products were sold in each category in the 5 machines total. Food category has most number of products sold, which is 3 427, followed by carbonated with 1 639 products. Non carbonated and water sold 710 and 483 products, respectively.

Although, we can see the Coca Cola – Zero Sugar, in the carbonated category, was the “best seller”, with 517 units sold. Monster Energy Original, also a carbonated product, was the second most sold product with 385 units sold. Poland Springs Water contributed for sales with 300 units, followed by KitKat – Crisp Wafers with 260, and Sinkist Soda – Orange with 217 units sold.

On the other hand, there are products that were sold only once. For example Nature's Garden Trail Mix - Heart Healthy Mix, Zevia Organic Tea – Peach, Nature's Garden Trail Mix - Omega 3, and others.

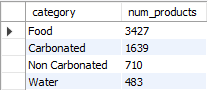
During this period, the 5 machines made a total of $12 048.25. The machine that most contributed for this total was GuttenPlans x1367 with $4 817,25. Contrariwise, both Mall machines were the ones with smaller sales amount - BSQ Mall x1366 – ATT made a total of $ 1075.75, while BSQ Mall x1364 – Zales made $1 342.75. EB Public Library x1380 and Earle Asphalt x1371 register $ 3 619 and $1 193.5, respectively.

SELECT category, count(\*) AS num\_products

FROM vending\_machine.vending\_machine\_sales

GROUP BY category

ORDER BY num\_products DESC



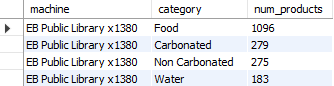
SELECT product, category, count(product) AS num\_products

FROM vending\_machine.vending\_machine\_sales

GROUP BY product

ORDER BY num\_products DESC

LIMIT 5



SELECT product, category, count(product) AS num\_products

FROM vending\_machine.vending\_machine\_sales

GROUP BY product

ORDER BY num\_products asc

LIMIT 10



SELECT SUM(linetotal) AS Total\_Sales, SUM(transtotal)

FROM vending\_machine.vending\_machine\_sales



Now, we are going to analyze the total number of products sold and the number of products sold per category, in each machine.

* **GuttenPlans x1367**

The GuttenPlans x1367 machine sold a total of 2 524 products, which of those 1 202 were food, 1 096 carbonated products and 226 non carbonated products.

Monster Energy Original was the preferred product in this machine, since it counts 307 sales. Also as carbonated product, Coca Cola - Zero Sugar ranks the second place with 280 units sold.

SELECT machine, count(\*) AS num\_products

FROM vending\_machine.vending\_machine\_sales

WHERE machine="GuttenPlans x1367"



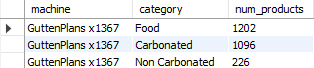
SELECT machine, category, COUNT(\*) AS num\_products

FROM vending\_machine.vending\_machine\_sales

WHERE machine="GuttenPlans x1367"

GROUP BY category

ORDER BY num\_products DESC



SELECT machine, product, category, count(\*) AS num\_products

FROM vending\_machine.vending\_machine\_sales

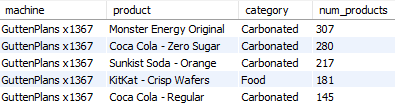
WHERE machine="GuttenPlans x1367"

GROUP BY product

HAVING COUNT(\*)>0

ORDER BY count(product) DESC

LIMIT 5



SELECT machine, product, category, count(\*) AS num\_products

FROM vending\_machine.vending\_machine\_sales

WHERE machine="GuttenPlans x1367"

GROUP BY product

HAVING count(\*)>0

ORDER BY count(product) ASC

LIMIT 5



* **EB Public Library x1380**

The EB Public Library x1380 machine sold 1 833 products, and 1 096 of them were food. The remain sold products were carbonated (279), non carbonated (275) and water (183).

SELECT machine, count(\*) AS num\_products

FROM vending\_machine.vending\_machine\_sales

WHERE machine="EB Public Library x1380"



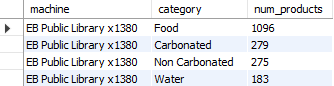
SELECT machine, category, count(\*) AS num\_products

FROM vending\_machine.vending\_machine\_sales

WHERE machine="EB Public Library x1380"

GROUP BY category -- water=183, carbonated=279, nc=275, food=1096

ORDER BY num\_products DESC



* **BSQ Mall x1366 – ATT**
* **BSQ Mall x1364 – Zales**
* **Earle Asphalt x1371**