In [ ]:   *# Zepto_Inventory_Analysis   Using Mysql+Jupy*

In [2]:
```
%load_ext sql
%sql mysql+mysqlconnector://root:root@localhost/
```

In [4]:
```
%%sql
use inventry;
```

 * mysql+mysqlconnector://root:***@localhost/
0 rows affected.

Out[4]: []

In [ ]:   *#DATA EXPLORATION*

In [33]:
```
%%sql
select * from zepto limit 10;     #SAMPLE DATA
```

 * mysql+mysqlconnector://root:***@localhost/
10 rows affected.

Out[33]:

sku_id	Category	name	mrp	discountPercent	availableQuantity	discountedS
1	Fruits & Vegetables	Onion	2500.00	16.00	3	
2	Fruits & Vegetables	Tomato Hybrid	4200.00	16.00	3	
3	Fruits & Vegetables	Tender Coconut	5100.00	15.00	3	
4	Fruits & Vegetables	Coriander Leaves	2000.00	15.00	3	
5	Fruits & Vegetables	Ladies Finger	1400.00	14.00	3	
6	Fruits & Vegetables	Potato	3500.00	17.00	3	
7	Fruits & Vegetables	Lemon	7500.00	16.00	3	
8	Fruits & Vegetables	Watermelon	5800.00	15.00	3	
9	Fruits & Vegetables	Capsicum Green	2300.00	17.00	3	
10	Fruits & Vegetables	Chilli Green	1900.00	15.00	3	

In [27]:
```
%%sql
select * from zepto
where category is null
or
name is null
OR
```

```sql
mrp is null
or
discountPercent is null
or
availableQuantity is null
or
discountedSellingPrice is null
or
weightInGms is null
or
outOfStock is null
or
quantity is null;          #CHECKING NULL
```

 * mysql+mysqlconnector://root:***@localhost/
0 rows affected.

Out[27]: | sku_id | Category | name | mrp | discountPercent | availableQuantity | discountedSellingPric |
|---|---|---|---|---|---|---|

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In [28]:
```sql
%%sql
select distinct category
from zepto
order by category;        #DIFFERENT PRODUCT CATEGORIES
```

 * mysql+mysqlconnector://root:***@localhost/
14 rows affected.

Out[28]:
category
Beverages
Biscuits
Chocolates & Candies
Cooking Essentials
Dairy, Bread & Batter
Fruits & Vegetables
Health & Hygiene
Home & Cleaning
Ice Cream & Desserts
Meats, Fish & Eggs
Munchies
Paan Corner
Packaged Food
Personal Care

In [29]:
```sql
%%sql
select outOfstock,count(sku_id)
from zepto                             # PRODUCTS IN STOCK VS OUT OF STOCK
GROUP BY outOfstock;                   # 0-available(3275) & 1-out of stock(453
```

```
  * mysql+mysqlconnector://root:***@localhost/
2 rows affected.
```

Out[29]:

outOfstock	count(sku_id)
0	3274
1	453

In [30]:
```
%%sql
select name,count(sku_id) as "Number Of Sku's"
from zepto
group by name                                              #PRODCUT NAMES PRESENT
having count(sku_id)
order by count(sku_id) desc limit 20 ;
```

```
  * mysql+mysqlconnector://root:***@localhost/
20 rows affected.
```

Out[30]:

name	Number Of Sku's
Arden Eggs White	10
Saffola Veggie Twist Masala Oats	10
Quaker Oats	10
Sunfeast Yippee! Pasta Treat - Sour Cream Onion	10
Sunfeast YiPPee! Magic Masala Noodles	10
Mother's Recipe Tamarind Paste	10
Amul Delicious Fat Spread - Cholesterol Free	10
Kellogg's Real Almond & Honey Corn Flakes	9
Amul Fresh Cream	8
iD Idli & Dosa Batter	7
Everest Garam Masala	6
Everest Chicken Masala	6
Everest Kitchen King Masala	6
Godrej Yummiez Chicken Nuggets	6
Zorabian Chicken Smoked Ham	6
Godrej Yummiez Chilli Chicken Sausages	6
Everest Tandoori Chicken Masala	6
Godrej Yummiez Chicken Punjabi Tikka	6
Maggi Magic Cubes Extra Chicken	6
Yummiez Chicken Garlic Fingers Pouch	6

In [21]:
```
                                                           #DATA CLEANING
```

In [34]:
```
%%sql
select * from zepto
```

```sql
where mrp=0 or discountedSellingPrice=0;        #PRODUCTS WITH PRICE=0
```

```
* mysql+mysqlconnector://root:***@localhost/
1 rows affected.
```

Out[34]:

sku_id	Category	name	mrp	discountPercent	availableQuantity	discountedSellingP...
3607	Home & Cleaning	Cherry Blossom Liquid Shoe Polish Neutral	0.00	0.00	1	(

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In [35]:
```sql
%%sql
delete from zepto
where mrp=0;
```

```
* mysql+mysqlconnector://root:***@localhost/
1 rows affected.
```

Out[35]: []

In [36]:
```sql
%%sql
update zepto
set mrp= mrp/100.0,
discountedSellingPrice=discountedSellingPrice/100.0;     #CONVERTING PAISE TO RUP
```

```
* mysql+mysqlconnector://root:***@localhost/
3727 rows affected.
```

Out[36]: []

In [37]:
```sql
%%sql
select mrp,discountedSellingPrice from zepto limit 10;
```

```
* mysql+mysqlconnector://root:***@localhost/
10 rows affected.
```

Out[37]:

mrp	discountedSellingPrice
25.00	21.00
42.00	35.00
51.00	43.00
20.00	17.00
14.00	12.00
35.00	29.00
75.00	63.00
58.00	49.00
23.00	19.00
19.00	16.00

In [38]:
```python
# Q1.Find the top 10 best-value products based on the discount percentage.
```

```sql
%%sql
select distinct name,mrp,discountPercent
from zepto
order by discountPercent desc
limit 10;
```

```
 * mysql+mysqlconnector://root:***@localhost/
10 rows affected.
```

Out[38]:

name	mrp	discountPercent
Dukes Waffy Chocolate Wafers	45.00	51.00
Dukes Waffy Orange Wafers	45.00	51.00
Dukes Waffy Strawberry Wafers	45.00	51.00
Ceres Foods Fish Mustard Instant Liquid Masala	220.00	50.00
Ceres Foods Laal Maas Instant Liquid Masala	220.00	50.00
Ceres Foods Nalli Nihari Instant Liquid Masala	220.00	50.00
Chef's Basket Durum Wheat Elbow Pasta	160.00	50.00
Chef's Basket Durum Wheat Fusilli Pasta	160.00	50.00
Chef's Basket Durum Wheat Penne Pasta	160.00	50.00
Dukes Waffy Chocolate Wafer Rolls	150.00	50.00

In [39]:
```sql
#Q2.What are the Products with High MRP but Out of Stock.

%%sql
select distinct name,mrp
from zepto
where outOfstock=1 and mrp>300
order by name desc;
```

```
 * mysql+mysqlconnector://root:***@localhost/
4 rows affected.
```

Out[39]:

name	mrp
Patanjali Cow's Ghee	565.00
MamyPoko Pants Standard Diapers, Extra Large (12 - 17 kg)	399.00
Everest Kashmiri Lal Chilli Powder	310.00
Aashirvaad Atta With Mutigrains	315.00

In [44]:
```sql
#Q3.Calculate Estimated Revenue for each category.

%%sql
select category,
sum(discountedSellingPrice * availableQuantity) as Total_Revenue
from zepto
group by category
order by Total_revenue;
```

```
 * mysql+mysqlconnector://root:***@localhost/
14 rows affected.
```

Out[44]:

category	Total_Revenue
Fruits & Vegetables	10846.00
Meats, Fish & Eggs	20693.00
Biscuits	25007.60
Dairy, Bread & Batter	55051.00
Beverages	55051.00
Health & Hygiene	64180.00
Home & Cleaning	122661.00
Packaged Food	224385.00
Ice Cream & Desserts	224385.00
Chocolates & Candies	224385.00
Personal Care	270849.00
Paan Corner	270849.00
Cooking Essentials	337131.00
Munchies	337131.00

In [51]:
```sql
#Q4.Find all products where MRP is greater than ₹500 and discount is less than 1

%%sql
select distinct name,mrp,discountPercent
from zepto
where mrp>500 and discountPercent<10.00
order by mrp desc, discountPercent desc limit 10;
```

* mysql+mysqlconnector://root:***@localhost/
10 rows affected.

Out[51]:

name	mrp	discountPercent
Dhara Kachi Ghani Mustard Oil Jar	1250.00	8.00
Saffola Gold (Jar)	1240.00	0.00
Dhara Filtered Groundnut Oil (Jar)	1050.00	1.00
Fortune Rice Bran Health Oil (Jar)	1050.00	1.00
Dhara Filtered Groundnut Oil (Jar)	1050.00	0.00
Fortune Soyabean Oil	1005.00	0.00
Fortune Sunlite Refined Sunflower (Jar)	925.00	0.00
Surf Excel Matic Powder Front Load	810.00	7.00
Surf Excel Matic Top Load	720.00	9.00
Pedigree Puppy Dry Dog Food Food Chicken & Milk	690.00	6.00

In [61]:
```
#Q5.Identify the top 5 categories offering the highest average discount percenta
```

```sql
%%sql
select category,
round(avg(discountPercent),2) as avg_discount
from zepto
group by category
order by avg_discount desc
limit 5;
```

* mysql+mysqlconnector://root:***@localhost/
5 rows affected.

Out[61]:

category	avg_discount
Fruits & Vegetables	15.46
Meats, Fish & Eggs	11.03
Chocolates & Candies	8.32
Ice Cream & Desserts	8.32
Packaged Food	8.32

In [73]:
```sql
#Q6. Find the price per gram for products above 100g and sort by best value.

%%sql
select distinct name,weightInGms,discountedSellingPrice,
round(discountedSellingPrice/weightInGms,2) as price_per_gram
from zepto
where weightInGms>=100
order by price_per_gram
limit 10;
```

* mysql+mysqlconnector://root:***@localhost/
10 rows affected.

Out[73]:

name	weightInGms	discountedSellingPrice	price_per_gram
Aashirvaad Iodised Salt	1000	19.00	0.02
Onion	1000	21.00	0.02
Onion	3000	57.00	0.02
Shubh kart - Nirmal sugandhi mogra wet dhoop zipper 20 sticks	1160	28.00	0.02
Tata Salt	1000	24.00	0.02
Vicks Cough Drops Menthol	1160	20.00	0.02
Baby Potato	500	16.00	0.03
Beetroot	500	13.00	0.03
Carrot	500	15.00	0.03
Potato	1000	29.00	0.03

In [80]:
```sql
#Q7.Group the products into categories like Low, Medium, Bulk.

%%sql
select distinct name,weightInGms,
```

```
case when weightInGms<1000 then 'low'
     when weightInGms<5000 then 'medium'
     else 'bulk'
     end as weight_category
from zepto
limit 25;
```

* mysql+mysqlconnector://root:***@localhost/
25 rows affected.

Out[80]:

name	weightInGms	weight_category
Onion	1000	medium
Tomato Hybrid	1000	medium
Tender Coconut	58	low
Coriander Leaves	100	low
Ladies Finger	250	low
Potato	1000	medium
Lemon	200	low
Watermelon	58	low
Capsicum Green	250	low
Chilli Green	100	low
Banana Robusta	348	low
Garlic Indian	100	low
Cauliflower	58	low
Ginger	200	low
Spinach	250	low
Muskmelon	58	low
Cabbage	58	low
Methi	250	low
Broccoli	500	low
Sapota	348	low
Onion	3000	medium
Potato	3000	medium
Orange Nagpur	232	low
Mint Leaves	100	low
Beans French	250	low

In [76]:
```
#Q8.What is the Total Inventory Weight Per Category.

%%sql
select category,
```

```
sum(weightInGms * availableQuantity) as total_weight
from zepto
group by category
order by total_weight;
```

 * mysql+mysqlconnector://root:***@localhost/
14 rows affected.

Out[76]:

category	total_weight
Meats, Fish & Eggs	48016
Biscuits	84431
Fruits & Vegetables	91794
Health & Hygiene	142904
Dairy, Bread & Batter	143735
Beverages	143735
Personal Care	348187
Paan Corner	348187
Home & Cleaning	373161
Packaged Food	490797
Ice Cream & Desserts	490797
Chocolates & Candies	490797
Cooking Essentials	1404326
Munchies	1404326