# Theory Activity No. 1

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**DIVISION-CS7** 

ROLLNO-24

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BATCH- CS72

1. #Find the total number of products in the inventory.

## **Python**

```
import pandas as pd
df = pd.read_csv("/content/Grocery_Inventory_400.csv")
len(df)
```

2. #Find the total number of different Sub-Categories.

## **Python**

3. # what is the average Unit Price of all products?

## **Python**

```
df['Unit_Price'].mean()

pnp.float64(250.54602500000001)
```

4. #Calculate the total Quantity of all Dairy products.

```
df[df['Category'] == 'Dairy']['Quantity'].sum()

pn.int64(19592)
```

#### 5.# Find the oldest Manufacture Date.

#### **Python**

```
df['Manufacture_Date'] = pd.to_datetime(df['Manufacture_Date'])
df['Manufacture_Date'].min()
Timestamp('2020-05-21 00:00:00')
```

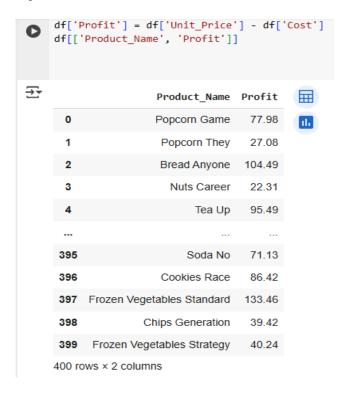
#### 6.# Which supplier supplies the maximum number of products?

## **Python**

```
df['Supplier'].value_counts().idxmax()

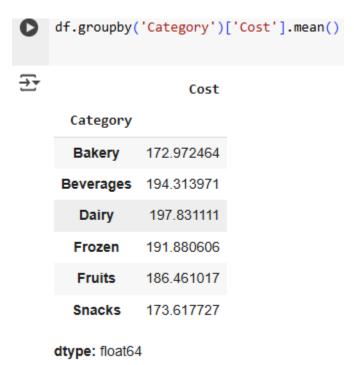
'TastyTreats'
```

# 7.# Calculate Profit (Unit\_Price - Cost) for each product.



#### 8.# Find the average Cost for each Category.

## **Python**



# 9.# Find the percentage of products that are not In Stock

#### **Python**

```
not_in_stock = df[df['In_Stock'] == 'No'].shape[0]
total = df.shape[0]
(not_in_stock/total)*100
```

# 10.# Find the Supplier with minimum average Cost.

```
df.groupby('Supplier')['Cost'].mean().idxmin()

'OrganicWorld'
```

#### 11.# Find how many products have a Profit greater than 100.

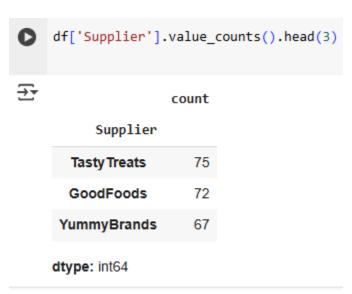
## **Python**

12.# Find the Category with the maximum number of products.

# **Python**

```
df['Category'].value_counts().idxmax()
'Dairy'
```

13.# Find the top 3 Suppliers who supply the most products.



## 14.# Which Sub-Category has the least number of products?

## **Python**

```
df['Sub_Category'].value_counts().idxmin()

'Apple'
```

## 15.# Count how many Suppliers supply Dairy products.

#### **Python**

```
df[df['Category'] == 'Dairy']['Supplier'].nunique()
6
```

## 16.# Find the Category with the least total Quantity.

```
df.groupby('Category')['Quantity'].sum().idxmin()

'Beverages'
```

#### 17.# Find the Supplier who provides the maximum quantity overall.

#### 18.# How many products have Manufacture Date in 2023?

#### **Python**

```
df[df['Manufacture_Date'].dt.year == 2023].shape[0]
77
```

## 19.# Find the most common Sub-Category.

#### python

```
df['Sub_Category'].value_counts().idxmax()

Frozen Meals'
```

# 20.# List all unique Categories available