**E-Commerce Dataset**

MECE BREAKDOWN

**1. Order-Level Analysis (MECE Breakdown by Transactions)**

* **Mutually Exclusive Groups:**
  + Unique orders (order\_id)
  + Unique users (user\_id)
* **Collectively Exhaustive Coverage:**
  + Total orders placed
  + Distribution of orders across users

Example of Insights

* Total Revenue generated by Order Using Python

###Total revenue generated by order

total\_revenue\_per\_order=df.groupby('order\_id')['price'].sum().reset\_index()

total\_revenue\_per\_order.columns=['order\_id','total\_revenue\_per\_order']

print(total\_revenue\_per\_order)

* Total Revenue generated by User Using Python

###Total Revenue based on user

total\_revenue\_per\_user=df.groupby('user\_id')['price'].sum().reset\_index()

total\_revenue\_per\_user.columns=['user\_id','total\_revenue\_per\_user']

print(total\_revenue\_per\_user)

* Average order value:

Using Python

avg\_order\_value = data.groupby('order\_id')['price'].sum().mean()

**2. Product-Level Analysis (MECE Breakdown by Products)**

* **Mutually Exclusive Groups:**
* Individual products (product\_id)
* Categories (category\_code or category\_id)
* Brands (brand)
* **Collectively Exhaustive Coverage:**
* Revenue contribution by each product, category, or brand
* Price distribution across products

**Examples of Insights**

* Top Selling Products Using Python

Top\_product=data.groupby(‘product\_id’)[‘price’].sum().sort\_values(ascending=’False’).head(10**)**

* Category-Wise Performance

Category\_performance=data.groupby(‘category\_code’)[‘price’].sum()

**3. Customer-Level Analysis (MECE Breakdown by Users)**

* **Mutually Exclusive Groups:**
  + Individual users (user\_id)
  + Segments based on purchase frequency or value (e.g., high-value, medium-value, low-value users)
* **Collectively Exhaustive Coverage:**
  + User purchase behavior across categories or brands
  + User retention and churn rates

Examples Of Insights

* High Value Customers

high\_value\_customers =data.groupby('user\_id')['price'].sum().sort\_values(ascending=False).head(10)

**4. Category-Level Analysis (MECE Breakdown by Category)**

* **Mutually Exclusive Groups:**
  + Distinct categories (category\_code or category\_id)
* **Collectively Exhaustive Coverage:**
  + Revenue by category
  + Distribution of products within categories

**Examples Of Insights**

* **Revenue Split Across Categories**

category\_revenue = data.groupby('category\_code')['price'].sum()

**5. Brand-Level Analysis (MECE Breakdown by Brand)**

* Mutually Exclusive Groups:
* Distinct brands (brand)
* Collectively Exhaustive Coverage:
* Brand-wise contribution to revenue
* Brand popularity by number of orders or users

Examples of Insights:

Brand performance analysis

brand\_performance = data.groupby('brand')['price'].sum()

**6. Price-Level Analysis (MECE Breakdown by Price Range)**

* Mutually Exclusive Groups:
* Price ranges (e.g., Low: <$50, Medium: $50–$200, High: >$200)
* Collectively Exhaustive Coverage:
* Distribution of products and revenue across price ranges

**Examples of Insights:**

Price range distribution

Data[‘price\_range’]=pd.cut(data[‘price’],bins=[0,50,200,data[‘price’].max()],labels=[‘Low’,’Medium’,’High’])

Price\_range\_dist=data.groupby(‘price\_range’)[‘price’].sum()