**7. To Implement Apriori Algorithm to find frequent item set generated from a given data set.**

# Install required libraries

!pip install mlxtend –quiet

# Import required libraries

import pandas as pd

from mlxtend.frequent\_patterns import apriori, association\_rules

from mlxtend.preprocessing import TransactionEncoder

# Load the dataset

df = pd.read\_csv('/content/Day1.csv')

print("Initial DataFrame:")

print(df.head())

# Assuming each row is a transaction (basket of items), drop NaNs

transactions = []

for i in range(len(df)):

transaction = df.iloc[i].dropna().tolist()

transactions.append(transaction)

# Convert to one-hot encoding

te = TransactionEncoder()

te\_array = te.fit(transactions).transform(transactions)

df\_trans = pd.DataFrame(te\_array, columns=te.columns\_)

# Apply Apriori algorithm

frequent\_itemsets = apriori(df\_trans, min\_support=0.2, use\_colnames=True)

# Generate association rules

rules = association\_rules(frequent\_itemsets, metric="lift", min\_threshold=1.0)

# Display results

print("\nFrequent Itemsets:")

print(frequent\_itemsets) print("\nAssociation Rules:")

print(rules[['antecedents', 'consequents', 'support', 'confidence', 'lift']])