# Department of Computer Science and Engineering

# Data Science

**Academic Year: 2024-2025 Name of Student:Diya Thakkar**

**Semester: 5 Student ID:22107040**

**Class / Branch: TE DS Date Of Performance:30-9-24**

**Subject: DWM Date Of Submission:30-9-24 Name of Instructor:Prof. Archana**

# Experiment No. 9

**Aim:**- Implementation of association mining algorithm like Apriori using python.

**Input:-**

1. Importing required libraries

import pandas as pd

from mlxtend.frequent\_patterns import apriori

from mlxtend.frequent\_patterns import association\_rules

2. Provide the input data with transactions and data items.

data = {'Milk': [0, 0, 1, 0, 1],

'Bread': [1, 1, 1, 1, 0],

'Butter': [1, 1, 1, 0, 0],

'Eggs': [1, 0, 0, 0, 0],

'Coke': [0, 0, 0, 1, 1], }

3. Declare a dataframe for the input data.

df = pd.DataFrame(data)

4. Frequent Itemsets Generation using Apriori Algorithm.

frequent\_itemsets = apriori(df, min\_support=0.3, use\_colnames=True)

5. Generating Association Rules.

rules = association\_rules(frequent\_itemsets, metric="confidence",

min\_threshold=0.8)

6. Displaying Results.

print("Frequent Itemsets:\n", frequent\_itemsets)

print("\nAssociation Rules:\n", rules[['antecedents', 'consequents',

'support', 'confidence']])

**Output:-**

