Association Rules

The Objective of this assignment is to introduce students to rule mining techniques, particularly focusing on market basket analysis and provide hands on experience.

**Dataset:**

Use the Online retail dataset to apply the association rules.

**Data Preprocessing:**

Pre-process the dataset to ensure it is suitable for Association rules, this may include handling missing values, removing duplicates, and converting the data to appropriate format.

**Association Rule Mining:**

• Implement an Apriori algorithm using tool like python with libraries such as Pandas and Mlxtend etc.

• Apply association rule mining techniques to the pre-processed dataset to discover interesting relationships between products purchased together.

• Set appropriate threshold for support, confidence and lift to extract meaning full rules.

**Analysis and Interpretation:**

• Analyse the generated rules to identify interesting patterns and relationships between the products.

• Interpret the results and provide insights into customer purchasing behaviour based on the discovered rules.

**Interview Questions:**

• What is lift and why is it important in Association rules?

• What is support and Confidence. How do you calculate them?

• What are some limitations or challenges of Association rules mining?