Assignment No.4

4.1. Title: Implementation of Apriori Algorithm.

4.2 Prerequisite: Install Anaconda Python, Jupyter Notebook , Spyder o Ubuntu 18.04. Add bashrc path.

4.3 Software Requirement: Jupyter Notebook, Spyder on Ubuntu.

4.4 Hardware Requirement : 2GB RAM500 GB HDD.

4.5 Learning Objectives:

Model associations between products by determining sets of items frequently purchased together and building association rules to derive recommendations.

4.6 Outcomes:

Create association rules which can be used for product recommendations depending on the confidences of the rules

4.7Theory Concepts:

1.Apriori Algorithm:

Data Science Apriori algorithm is a data mining technique that is used for mining frequent itemsets and relevant association rules. This module highlights what association rule mining and Apriori algorithm are, and the use of an Apriori algorithm. Also, we will build one Apriori model with the help of Python programming language in a small business scenario.

Apriori algorithm is a classical algorithm in data mining that is used for mining frequent itemsets and association rule mining.

2. What Is Association Rule Mining?

As mentioned before, the Apriori algorithm is used for the purpose of association rule mining. Now, what is association rule mining? Association rule mining is a technique to identify frequent patterns and associations among a set of items. For example, understanding customer buying habits. By finding correlations and associations between different items that customers place in their ‘shopping basket,’ recurring patterns can be derived.

3.How Apriori Works?

Step 1: Import the libraries.

Step 2: Load the dataset.

Step 3: Have a glance at the records.

Step 4: Look at the shape.

Step 5: Convert Pandas DataFrame into a list of lists.

Step 6: Build the Apriori model.

Step 7: Print out the number of rules

4.8 Code and output:

4.9Conclusion:

Thus I learn that to find frequently occurring items from given data and generate strong association rules using support and confidence thresholds using a-priori algorithm