

Activity

Question1: Give an example where you can apply the Apriori algorithm.

Answer: Apriori algorithm is a classical algorithm in data mining. It is used for mining frequent item sets and formulated association rules in order to operate the database containing a lot of transactions, as an example, items brought by customers in a store.

It reduces the size of itemsets in the database which helps consumers and industries better in decision making process.

This algorithm can help in increasing the sales of the supermarket by tracking the stock keeping unit (SKU) for each item, and then arranging the items according to the particular set of items that were bought together.

Question2: What happens when we decrease the support level? Why?

Answer: Support represents the popularity of that product of all the product transactions. Support of the product is calculated as the ratio of the number of transactions includes that product and the total number of transactions.

Support of the product = (Number of transactions includes that product)/ (Total number of transactions)

Hence, when we decrease the support level it would result in decrease of the amount of popularity we need.

Question 3. What happens when we increase the confidence level? Why?

Answer: When we increase the confidence level, we tend to increase the probability of that item to be transacted with the compared item. Below example will explain how this works:

This depends upon the association between two items. For example when a person buys milk is more likely to buy bread as well or vice versa. This is measured by the proportion of transactions with item X, in which item Y also appears. Expressed as $\{X \rightarrow Y\}$. Calculated by the proportion of number of transactions in which both (X & Y) occurs to support of the item X.

Question 10. What recommendations would you give to the owner of the bakery?

Answer: I would like to give few recommendations:

- There are heavy chances that if people buy coffee and tea together they'll buy cake.
- If a person buys a toast, there is 70% chance that he/she will buy coffee.
- Owner can also make a combo of hot chocolate and cake as it will definitely boost the sales because people are liking to buy them together.
- It is recommend that never ask your customers to buy brownie with bread.
- Pairs of cake-coffee and pastry-coffee are having a very high demand.

Link Of GitHub: https://github.com/MuskaanSehgal/BigData_W7_A1