

**Prince Parihar**  
**Project 1, Section B**

**Que 1.) Give an example where you can apply the Apriori algorithms.**

**Ans)** The Apriori algorithm is used for mining frequent itemsets and devising association rules from a transactional database. The parameters “support” and “confidence” are used.

**Examples**

- Market Basket Analysis

Many e-commerce giants like Amazon use Apriori to draw data insights on which products are likely to be purchased together and which are most responsive to promotion. For example, a retailer might use Apriori to predict that people who buy sugar and flour are likely to buy eggs to bake a cake.

- Auto-Complete Applications

Google auto-complete is another popular application of Apriori wherein - when the user types a word, the search engine looks for other associated words that people usually type after a specific word.

**Que 2.) What happens when we decrease the support level? Why?**

**Ans.)**

**Support:** It gives the fraction of transactions which contains item A and B. Basically Support tells us about the frequently bought items or the combination of items bought frequently.

$$Support = \frac{freq(A, B)}{N}$$

So, we can filter out the items that have a low frequency.

When support level decreases, the popularity of the item set decreases.

**Que 3.) What happens when we increase the confidence level? Why?**

**Ans.) Confidence:** It tells us how often the items A and B occur together, given the number times A occurs.

$$Confidence = \frac{freq(A, B)}{freq(A)}$$

When we increase the confidence level of a transaction, then we tend to increase the probability of that itemset to be transacted with the other itemset.

**Que 10.) What recommendations would you give to the owner of the bakery?**

**Ans.) Recommendations:**

- a. Combo of items like cake-coffee and pastry-coffee should be introduced as they are in demand.
- b. Need not to recommend brownie with bread.

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- c. Items should be available in bulk because from morning till evening huge number of people come.