**Cloud Computing for Data Analysis**

**VIDEO CASE 07: Association Rules Market Basket Analysis**

**Video Case Questions:**

1. What is Market Basket Analysis?   
   **Answer:**  
   Market Basket Analysis (MBA) is one of the key modelling techniques which is used by retailers to deduce associations between items. It is used to determine which items are frequently bought together or placed in the same basket by customers. Market Basket Analysis uses this purchase information to leverage effectiveness of sales and marketing.

MBA works by looking for combinations of items that occur together frequently in transactions. It’s based on the theory that if customers buy a certain group of items, they are more (or less) likely to buy another group of items. This theory/technique allows retailers to identify relationships between the items that people buy.

1. Mention some disadvantages of Apriori algorithm for longer transactions.  
   **Answer:**

Disadvantages of Apriori algorithm for big transactions:

1. Many iterations are performed in case of big transactions, thus slowing it down.
2. False positives must be removed by pre-processing-another time-consuming process.
3. Large number of subsets are generated in each scan; and for each of these scans, the database is accessed, which slows down the algorithm.
4. It assumes that transaction database is memory resident.
5. Generation of item-sets and support counting is expensive
6. In what other domains Market Basket Analysis can be applied?  
   **Answer:**Other domains where Market Basket Analysis can be used are:

🡪Netflix, Movie/Music recommendation system like Spotify and Apple Music, YouTube.

🡪In the field of bioinformatics, medical diagnosis, web mining and scientific data analysis.

🡪Datamining/ pattern analysis.

🡪For physical product placement in a store to separate items that are often purchased at the same time.