

PROBLEM SET V – FREQUENT PATTERN MINING IMPLEMENTATIONS

- (1) Extend the Apriori Algorithm discussed in the class supporting Transaction Reduction approach to improve the time complexity issue as a result of the repeated scans limitation of Apriori. You may compare this extended version with the earlier implementations in (1) over the same benchmark dataset.
- (2) Test drive any one implementation in (1) or (2) adopting a Vertical Transaction Database format.
- (3) Using a vertical transaction database notation, generate the FI's following the intersection approach (basic ECLAT) discussed in the class. Use earlier benchmark datasets in (1).
- (4) Extend the basic Apriori algorithm to generate Frequent Patterns which differentiate ab from ba (ordered patterns generation).
- (5) Implement following extensions to Apriori Algorithm (discussed / to be discussed in the class): Hash based strategy, Partitioning Approach. You may refer to online tutorials for a formal pseudocode description.
- (6) Implement the Dynamic Itemset Counting Algorithm for Frequent Itemset Generation.
- (7) Test drive (download exe's or generate one using open-source versions) any three algorithms for FIM not discussed in the class.