COMPARISON OF ASSOCIATION ALGORITHM'S EFFICIENCIES BETWEEN APRIORI AND FP-GROWTH ALGORITHMS

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ABSTRACT

This research compares the Apriori algorithm and FP-growth algorithm in terms of the Association algorithm's efficiency outcomes. In order to investigate the processing time for finding the association rules for each algorithm, we assigned the parameters of both support and confidence values to be equal. The Apriori algorithm generates the association rules by searching the frequency of itemsets. Furthermore, the Apriori algorithm is used to replicate the search as close as the level-wise search. In order to reseach itemsets each time, the entire database must be scanned. On the other hand, the FP-growth algorithm generates the association rules by creating the frequent itemsets without the candidate itemsets. Moreover, the FP-growth algorithm uses the data compression of the database in the FP-tree process to avoid duplicated reading data. The data used in the study is the shopping data from Supermarket, which was imported to the Weka program to find the association rules. According to the experiment, it was found that both the Apriori algorithm and FP-growth algorithm are not different in terms of the association rules. Likewise, the FP-growth algorithm is better than the Apriori algorithm in terms of processing time.

KEY WORDS: ASSOCIATION RULE/ APRIORI ALGORITHM/ FP-GROWTH ALGORITHM/ MINSUPPORT/ MINCONFIDENCE

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