Abstract

As the technology develop, human ability to process data in computerized is growing that raise the number of digital data. To get information from the data that are needed, is more difficult. To solve that problem, a mechanism that can cluster the data automaticaly is needed. Clustering is a mechanism that will cluster data in groups based on the similarity. Data that have high similarity will be clustered in a cluster while data that have low similarity will be clustered in another group. To do the data clustering process, some algorithm can be used such as Max Min Ant System. In the beginning this algorithm is used to solve TSP, however this algorithm has been developed to solve document clustering problem lately, by considering document as a node.

This algorithm also adopt ant behavior in finding food. Ant is capable to find shortest route based on footstep or feromon in the track that has been passed by it. In clusterization, document is consider as node or food source that will be searched by ant based on the similarity.

Experiment is done to know the influence of parameter ant, α, β, and attachment coefficient (δ) in clustering process and to determine value of the parameter for producing optimal cluster. To measure cluster quality, davies bouldin index is used. This index do measurement to maximalize inter-cluster distance and try to minimalize the distance between nodes in a cluster. From the result of the experiment that had been done by parameters that produced optimal cluster, minimal davies bouldin index value is at the number of ant = 100, α = 1, β = 1, and attachment coeffisien = 0.011.

Keyword : *Clustering*, *Max Min Ant System*, Document Clusterization*, Similarity*, *Attachment Coeffisien, Davies-Bouldin*.