ABSTRACT

Search for the shortest route problem in the city especially indispensable for travelers in and out of the city itself. Given the many roads that can be taken to make the user look for the fastest path to get to its destination.

One algorithm suitable to solve the problem of finding the shortest path is a label-setting algorithms. Label-setting algorithm see the possibilities - possibilities that exist and mark the shortest path to node n by finding the minimum value obtained for up to the node and mark it by using the path tree. A Path on the shortest path tree, in graph theory is the subgraph that calculates the distance between the node from the origin node to node - the node that is around and choose the smallest value. Called a tree because if it finds two paths to the same end of the line (rotating), then we can delete the path that has the largest path length. Therefore, the path tree is unique[6].

Several tests have been performed on the label-setting algorithm program by the number of nodes as many as 59 nodes, 75 nodes and 100 nodes. It also tried a third the number of nodes on two PCs that have different specifications. From the test results can be seen the performance of the label-setting algorithms for shortest path problems.

Key words: Shortest path, label-setting algorithm, path tree.