

## **CHAPTER VI**

### **Conclusion and Further Research**

#### **6.1 Conclusion**

Based on the experiments, it can be concluded that the quality of solutions depends on the number of ants. The lower number of ants allows the individual to change the path much faster. The higher number of ants in population causes the higher accumulation of pheromone on edges, and thus an individual keeps the path with higher concentration of pheromone with a high probability.

Ant colony optimization clearly has the ability to find good results within 1% of the known optimum for small problems. However, consistent with past research, the ACO methods used in this research are not as efficient in finding solutions for larger problems. In the research, an algorithm based ACO is applied to larger problems success and the solution is encouraging,

#### **6.2 Further Research**

This application still simple and need a lot further development. This application only can compute 10 cities, for the further the application can compute 100 cities instead of just 10 cities. And for the process could be the simulation of ant walk in the maps.