ABSTRACT

Genetic algorithm (GA) is a heuristic search method that mimics natural evolution by Darwin Theory of Evolution. GA is known to give a good performance on solving many complex and difficult search problem such as function optimization and scheduling. However, GA is not without shortcomings, one of the most well known is premature convergence phenomenon which may leads the search to local optimum solution. This phenomenon can be caused by the loss of population diversity. The random mating used by simple GA can lead to the loss of population diversity. In this final assignment the nonrandom mating method will be used in the form of incest prevention that we hope can avoid the loss of population diversity. Once successfully implemented, this algorithm would then tested its performance with several test functions and then analyzed.

Keywords : genetic algorithm, evolution, premature convergence, population diversity, nonrandom mating, incest prevention.