NATIONAL UNIVERSITY OF SINGAPORE
Department of Mathematics
Semester 2 (2007/2008) MA4254 Discrete Optimization Tutorial 10

Q1. Construct a triangle inequality TSP problem with six to ten cities and apply the $\frac{1}{2}-$ approximation algorithm and Christofides' algorithm to it, respectively. Compare these two solutions with an optimal one.

Q2. Given a graph $G = (V, E)$, the Maximum Cut (Max-Cut) problem is to partition the nodes (vertices) of G into two sets S and T with $S, T \subseteq V$, $S \cup T = V$, $S \cap T = \emptyset$ such that there are as many edges as possible between S and T. Construct a graph G with at least eight nodes and twenty five edges and apply the $\frac{1}{2}-$ approximation algorithm to it. Compare the obtained approximate solution with an optimal solution.

Q3. All the questions in the mid-term test.

Q4. Any other question that you want to ask.