

Thesis of Operational Research 2

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Abstract

This is the presentation of the problem and code managed in Operational Research 2, the Computer Engineering course of the University of Padua.

1 Travelling Salesman Problem (simmetric version)

During the course the well-known Traveling Salesman Problem (TSP) was analyzed in its symmetrical version. This is a proposed linear programming model which resolve the problem:

$$\begin{cases} \min \sum_{e \in E} c_e x_e \\ \sum_{e \in \delta(v)} x_e = 2, \forall v \in V \\ \sum_{e \in E(S)} x_e \leq |S| - 1, \forall S \subset V, |S| \geq 3 \\ x_e \in \{0, 1\}, \forall e \in E \end{cases}$$