

Preprocessing Algorithms for Generalized Network Solvers

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Networks are used to model a wide variety of applications. These network models have the potential to become quite large. Even problems that are modeled efficiently may often need to be transformed to a smaller, essentially equivalent, model in order to be solved quickly.

Preprocessing is a set of techniques that can be applied to a mathematical program to reduce its size. Its goal is to reduce the number of constraints and variables, while providing an optimal feasible solution to the original problem. Its purpose is to reduce the solution time of the problem. This talk presents a set of preprocessing procedures developed specifically for the generalized network flow problem.