

This thesis deals with a real world problem of an optimal planning of transferring goods between stores of a certain retail company. The aim is to propose a system which, based on customer orders and current stock items availability, should be capable of devising an optimal plan. In this thesis, following a thorough analysis of the problem, there is a formalised problem of automated logistics. After a brief overview of existing approaches in the area of logistics problem solving, there are subsequently designed solution methods based on programming with limited conditions and mixed integer programming. Both methods are compared to each other experimentally, by taking into account the quality of the found solution and the methods' efficiency.