

Author describes a specific optimization problem-the transportation problem and analyzes relevant solution methods. Several methods of solving the transportation problem are listed, applied or introduced and applications of the transportation problem in the theory of probability and mathematical statistics are presented, namely the statistical sorting in L1 norm and re-construction of contingency tables. Special interest is devoted to several modifications of ordinary transportation problem, mainly the multiindex transportation problem. The crucial part of the work are selected applications of the transportation problem to particular problems and showing some algorithms used for finding solutions.