When it comes to maximization of effectively or minimizing of cost, optimization represents the key activity. There is a number of practical examples that can be implemented into Theory of Graphs and subsequently optimized. This thesis includes the introduction to transportation problem where the consumer demand is met by the lowest price. Also there is maximum flow problem which is to transfer maximum of commodity (petroleum, gas...) through the network where each edge has a capacity restriction. We will also look into the alternative situations where we will maximize the flow along with minimizing of cost. To resolve these problems we will establish numeric algorithms like distribute method, labeling algorithm, shortest augmented path algorithm, and Preflow-Push algorithms. We will also illustrate functionality on example which confirm appropriate application of algorithms and differences among them.