

Linear programming problems

Linear Programming is a technique for determining an optimum schedule of interdependent activities in view of the ~~the~~ available resources. Programming is just another word for 'planning' and refers to the process of determining a particular plan of action from amongst several alternatives. The word linear stands for indicating that all relationships involved in a particular problem are linear.

Introduction to Simplex method

As discussed earlier, the Simplex Method, also called the 'Simplex technique' or the 'Simplex Algorithm' is an iterative procedure for solving a linear programming problem in a finite number of steps. The method provides an algorithm which consists in moving from one vertex of the region of feasible solution to another in such a manner that the value of the objective function at the succeeding vertex is less (or more, as the case may be) than at the preceding vertex. This procedure of jumping from one vertex to another is then repeated. Since the number of vertices is finite, the method leads to an optimal vertex in a finite number of steps or indicates the existence of an unbounded solution.

Transportation problem

The transportation problem is one of the subclasses of L.P.P. in which the objective is to transport various quantities of single homogeneous commodity, that are initially stored at various origins to different destinations in such a way that the total transportation cost is minimum.

To achieve this objective we must know the amount & location of available supplies & the quantities demanded. In addition, we must know the costs that result from transporting one unit of commodity from various origins to various destinations.