

Crops Allocation System for Agriculture Sector by using Integer Linear Programming

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Abstract

Today many business and factory want to get maximum profit for their products, so they use many optimum resource allocation methods for decision variables or slack variables. (E.g – By using Simplex method, Big –M method, Dual simplex method and so on). These methods give not only real values but also fractional values for decision variables. In real-world, it is impossible to use these variables with decimal. So, this system can give decision variables as well as slack variables with integer values. Firstly, this system uses phase I from Simplex Method in linear Programming to produce optimal solution by asking some questions (E.g- How many crops do you plant?, How many acres do you have? ..). If the optimal solution is not integer value, it uses Gomory's Cutting Plane Method from Integer Linear Programming to produce new equation and by using Dual Simplex Method to produce decision variables with integer value for Agricultural field. This paper is implemented by using Microsoft Visual Studio 2010; C# Window based on C# Programming language.