International Journal of Advance Research in Science and Engineering
Volume No.07, Issue No.05, May 2018
www.ijarse.com
IJARSE
ISSN: 2319-8354

A ZERO-ONE GOAL PROGRAMMING MODEL TO RESOLVE THE CAPITAL BUDGETING DEALS WITH A WIDE RANGE OF PUBLIC SECTOR AREAS

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ABSTRACT

This paper presents a capital budgeting deals with a public sector. The model could aid in capital budgeting in Telangana state government universities, penal systems, and water resource planning (MCH). The goal programming is capable of handling decision problems with single and multiple goals (constraints). The basic concept of goal programming involves incorporating all goals in one model which can be solved simultaneously. In this paper a case study is demonstrated local government capital budgeting and which is very easy to apply throughout the public sector areas.

KEY WORDS: Capital Budgeting, A zero-one goal programming, Public Sector, Limited Budget.

INTRODUCTION

In today's complex organizational environment, the decision maker is regarded as one who attempts to achieve a set of objectives to the fullest possible extent in an

International Journal of Advance Research in Science and Engineering
Volume No.07, Issue No.02, February 2018
www.ijarse.com
IJARSE
ISSN: 2319-8354

Finding the ring of integers and its algorithms in algebraic number theory

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ABSTRACT

We examine the algorithmic problem of finding the ring of integers of a given algebraic number field. In practice it is often assumed that this problem is solved, but the theoretical results show that it is not manageable for the numerical fields defined by equations with very high coefficients.Such fields occur in the number field sieve algorithm for factoring integers. Applying a variant of a standard algorithm for finding rings of integers, one finds a subring of the number field that one may view as the "best guess" one has for the ring of integers. This best guess is probably often correct. Our main concern is what can be proved about this subring. We show that it has a particularly transparent local structure, which is reminiscent of the structure of tamely ramified extensions of local fields.

I. INTRODUCTION

In this work concerned with the following problem from algorithmic algebraic number theory: given an algebraic number field *K*, determine its ring of integers *O*. The apparent contradiction is easy to resolve. Namely, all computational experience so far is limited to "small" number fields K, such as number fields that are given as *K*= Q[X]/*f*Q[X], where Q is the field of rational numbers and *f* is an irreducible polynomial of small degree with small integer coefficients. The algorithms that are used for small fields will not always work when they are applied to "large" number fields. Large number fields are already making their appearance in applications of algebraic number theory, and the determination of their rings of integers is generally avoided. One can attempt to determine the ring of integer's *O* of a given number field *K* in a similarly naive manner. One starts from an order in *K*, i. e., a subring A of *O* for which the index (*O*: A) of additive groups is finite; for example, one may take A = Z [α], where α∈ K is an algebraic integer with *K* = Q (α) . As we shall see, one can determine *O* if the largest squarefree divisor *m* of the discriminant Δ_A of *A* is known.

Material and Methods

Given an algebraic number field K, determine its ring of integers *O*

In mathematics, the ring of integers of an algebraic number field *K* is the ring of all integral elements contained in *K*. An integral element is a root of a monic polynomial with rational integer coefficients, $x^n + c_{n-1}x^{n-1} + \ldots$

International Journal of Advance Research in Science and Engineering
Volume No.06, Special Issue No.(01), December 2017
www.ijarse.com
IJARSE
ISSN: 2319-8354

Applications of Semi groups

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ABSTRACT

This section deals with the applications of semi groups in general and regular semi groups in particular. The theory of semi groups attracts many algebraists due to their applications to automata theory, formal languages, network analogy etc. In which we have seen different areas of applications of semi groups. We identified some examples in biology, sociology etc. whose semi group structures are nothing but regular, E-inversive and inverse semi group etc.

I.INTRODUCTION

The concept of a semigroup is relatively young, the first, often fragmentary, studies were carried out early in the twentieth century. Then the necessity of studying general transformations, rather than only invertible transformations (which played a large role in the development of group theory) became clear. During the past few decades connection in the theory of semigroups and the theory of machines became of increasing importance, both theories enriching each other. In association with the study of machines and automata, other areas of applications such as formal languages and the software use the language of modern algebra in terms of Boolean algebra, semigroups and others. But also parts of other areas, such as biology, psychology, biochemistry and sociology make use of semigroups.

Global Journal of Pure and Applied Mathematics.
ISSN 0973-1768 Volume 12, Number 2 (2016), pp. 1403-1412

http://www.ripublication.com

An Investigation on Some theorems on K-Path Vertex Cover

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Abstract

In This Paper we examine upper limits on the estimation of δ_k (G) the base cardinality of a vertex K-Path Cover in G and give a few estimation and precise estimations of δ_k (G). We additionally demonstrate that δ_k (G) $\geq \frac{kn}{k+2} + \frac{m}{(k+1)(k+2)}$ for every graph G with n vertices and m edges. The base cardinality of vertex K-Path cover concepts widely used in secure communication in wireless sensor networks (WSNs).

Keywords: Graph, Base cardinality of a vertex K-Path Cover, WSN.

Introduction and motivation

In this paper, A subset S of vertices of a graph G is called a K-path vertex cover if every path of order kin G contains at least one vertex from S. Denote by δ_k (G) the minimum cardinality of a K-path vertex cover in G. It is shown that the problem of