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L(1,1,1)-LABELING OF PATH, BOUQUET OF CYCLES AND SUN GRAPH

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Abstract: For a given graph G(V, E), L(1,1,1)-labeling problem is an assignment from vertex set V to the set of

non negative integers. If Z^+ be the non negative integers then L(1,1,1)-labeling is a function $f: V \to Z^+$ such that

for any two vertices x and y, $|f(x) - f(y)| \ge 1$, when d(x,y) = 1; $|f(x) - f(y)| \ge 1$, when d(x,y) = 2; and

 $|f(x)f(y)| \geq 1, \text{ when } d(x,y) = 3. \text{ The } L(1,1,1)\text{-chromatic number } \lambda_{1,1,1} \text{ is the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer such that } \lambda_{1,1,1} = 1, \text{ the smallest positive integer s$

G has an L(1,1,1)-labeling with $\lambda_{1,1,1}$ as the maximum label. In this paper we determine the L(1,1,1)-chromatic

number for a path, a cycle, bouquet of cycles joining at a vertex (all are of finite lengths) and sun graph. We also

present a lower and upper bounds for $\lambda_{1,1,1}$ in terms of the maximum degree of G.

Keywords: distance labeling; radio labeling; graph colouring; λ -labeling; L(h, k)-labeling; L(d, 1, 1)-labeling;

L(d, 2,1)-labeling.

2010 AMS Subject Classification: 05C12.

1. INTRODUCTION

In 1980 Hale introduced channel assignment problem, which is nothing but an assignment to

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