Abstract

A square difference 3-equitable labeling of a graph G with vertex set V is a bijection f from V to \{1,2,\ldots,|V|\} such that if each edge uv is assigned the label -1 if 
\[ |f(u)|^2 - |f(v)|^2 \equiv -1 \pmod{4}, \]
the label 0 if 
\[ |f(u)|^2 - |f(v)|^2 \equiv 0 \pmod{4}, \]
and the label 1 if 
\[ |f(u)|^2 - |f(v)|^2 \equiv 1 \pmod{4}. \]
Square Difference 3-Equitable Labeling of Some Graphs

- \[ f(v) \]
- \[ 2 \]
- \[ 1 \]
- \[ \mod 4 \]

\[ \), then the number of edges labeled with \( i \) and the number of edges labeled with \( j \) differ by atmost 1 for \(-1 \leq i,j \leq 1\). If a graph has a square difference 3-equitable labeling, then it is called square difference 3-equitable graph. In this paper, we investigate the square difference 3-equitable labeling behaviour of middle graph of paths, fan graphs, \( (P_{2n}, S_1) \), \( mK_3 \), triangular snake graphs and friendship graphs.

Reference


Index Terms

Computer Science

Applied Mathematics

Keywords
Square difference 3-equitable labeling, square difference 3-equitable graphs