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 $|(f(u))^2 - (f(v))^2| \equiv -1 (mod 4)$, the label 0 if $|(f(u))^2 - (f(v))^2| \equiv 0 (mod 4)$ and the label 1 if $|(f(u))^2 - (f(v))^2| \equiv 1 (mod 4)$.
\[ f(v) \equiv \left( \frac{1}{4} \right) \mod 4 \]

, then the number of edges labeled with \( i \) and the number of edges labeled with \( j \) differ by at most 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 behavior of middle graph of paths, fan graphs, \((P_{2n}, S_{1})\), \(mK_{3}\), triangular snake graphs and friendship graphs.

References


Index Terms

Computer Science Applied Mathematics

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