Abstract

A tree is a connected acyclic graph on n vertices and n-1 edges. Graceful labeling of a tree is a labeling of its vertices with the numbers from 0 to n-1, so that no two vertices share a label, labels of edges, being absolute difference of the labels of its end points, are also distinct. There is a famous conjecture named Graceful tree conjecture or Ringel-Kotzig Conjecture that says “All trees are graceful”. Almost 50-year old conjecture is yet to be proved. However, researchers have been able to prove that many classes of trees are graceful. In this paper, we have introduced a new web tool named VGTool which help many researcher to know which classes of trees already been proved to be graceful. Moreover, researcher can generate random tree by using this web tool and verify in which class this tree belongs. If it is belongs to some known class then web tool generate graceful labeling of this tree otherwise researcher can try to classify this tree. We hope this web tool will help researcher in a very useful way.


Index Terms

Computer Science

Applied Sciences

Keywords

graceful labeling, graph theory, graceful tree conjecture, web tool