Abstract

Every graph has one or more diametral paths. A diametral path of a graph is a shortest path whose length is equal to the diameter of the graph. Let dv be a diametral vertex. There may be one or more diametral paths originating from dv. We want to find all the diametral paths, originating from dv. The total number of diametral paths reachable from a vertex v is called the Diametral Reachable Index of that vertex, denoted DRI(v). For any vertex v, the DRI(v)=0, if there are no diametral paths reachable from v, else we write DRI(v)=t, where t is the total number of diametral paths reachable from vertex v. An algorithm is developed to find DRI of each vertex of a graph, by modifying the DFS algorithm.

References

Index Terms

Keywords

DRI  diametral paths  diametral reachable index  diametral vertex