

Component connectivity of a graph

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The connectivity of a graph is defined as the maximum number of internally disjoint paths between any two different vertices or, equivalently, as the minimum number of vertices that must be removed from a graph in order to disconnect it. This concept has been refined in many different directions to express additional properties of interconnection networks. The notion of r -component connectivity addresses the number of vertices which must be removed in order to create a graph with at least r connected components. We present some general bounds on the r -connectivity of graphs as well as exact results for some interesting families of interconnection network models.

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