

Rainbow Connection in Graphs

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Let G be a nontrivial connected graph on which is defined an edge coloring $c: E(G) \rightarrow \{1, 2, \dots, k\}$, $k \in \mathbb{N}$, where adjacent edges may be colored the same. A path P is a rainbow path if no two edges of P are colored the same. The graph G is rainbow-connected if G contains a u - v rainbow path for every two vertices u and v of G . The minimum k for which there exists such a k -edge coloring is the rainbow connection number $rc(G)$ of G . Results about the rainbow connection number for several classes of graphs will be discussed.