Discussiones Mathematicae
General Algebra and Applications 40 (2020) 105–106
doi:10.7151/dmgaa.1322

ON THE INTERSECTION GRAPHS ASSOCIETED TO POSETS

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Abstract

Let $(P, \leq)$ be a poset with the least element 0. The intersection graph of ideals of P, denoted by $G(P)$, is a graph whose vertices are all non-trivial ideals of P and two distinct vertices I and J are adjacent if and only if $I \cap J \neq \{0\}$. In this paper, we study the planarity and outerplanarity of the intersection graph $G(P)$. Also, we determine all posets with split intersection graphs.

Keywords: poset, intersection graph, split graph, planar graph, outerplanar graph.

2010 Mathematics Subject Classification: 05C10, 06A07.

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Received 24 July 2019
Revised 3 December 2019
Accepted 7 February 2020