ABSTRACT

The 0-distributive lattice, the 0-distributive semilattice and the 0-distributive poset are characterized using ideals, semiideals and filters. Some properties of these systems are derived. Examples are given to show that certain results which are true for lattice (semilattice) are not true for semilattice (poset).

Necessary and sufficient conditions are obtained for a 0-distributive poset to be disjunctive/quasicomplemented. Two criteria are found for a finite 0-distributive poset to be pseudoatomic.

The Stone topology on the set of prime filters of a 0-distributive lattice and a dual topology on the set of prime filters of a 1-distributive lattice are studied. These topologies are related by a result in the case of 0 & 1 - distributive lattice.