

ON PERMUTATIONAL COMPLETENESS IN 2-VALUED AND 3-VALUED LOGICS

Abstract

In a number of applied problems of discrete mathematics there arises the necessity in consideration the functions of the k -valued logic within to permutations of columns of their values. This reduced to (see [1]) concepts of permutational comparability of functions of fixed arity, permutational cover (in abbreviated form: σ -cover) of a function and a set of functions, σ -complete set of functions and to the natural problems of finding all σ -complete closed classes and boundary in the lattice of closed classes, separating σ -complete classes from σ -completen ones. In the present paper, these problems are solved for 2-valued logic and we plan to find method to their solution for 3-valued logic. At that the variant of these problems is considered, when the operator σ acts after superpositional closure, unlike variant from [1], where it acted before it.