ON WEAKLY SEMI SUPER BOOLEAN ALGEBRAS

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In this paper, we define a notion called weakly semi super Boolean algebra. This is the generalization of weakly Boolean algebra. We prove a necessary and sufficient condition for a lattice to be a weakly semi super Boolean algebra. “A lattice L is a weakly semi super Boolean algebra if and only if it has a non trivial sub lattice S whose homomorphic image is isomorphic to a semi super Boolean algebra. Further we have proved that every n-semi super Boolean algebra is isomorphic to the lattice $M_{n+1}$. Clearly a Boolean algebra is a 1-semi super Boolean algebra. We assume the Boolean algebra [01] is trivial as every finite lattice contains 0 and 1. Also these weakly semi super Boolean algebra will not satisfy the distributive law. We prove

1. A chain lattice with n elements $n > 2$ is never a weakly Boolean algebra.
2. Every weakly semi super Boolean algebra is modular but every modular lattice is not in general a weakly semi super Boolean algebra.