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ON GENERALIZED LATTICE $\mathcal{B}_2$

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Abstract. This study is on a Boolean $\mathcal{B}$ or Boolean lattice L in abstract algebra with closed binary operation $*$, complement and distributive properties. Both Binary operations and logic properties dominate this set. A lattice sheds light on binary operations and other algebraic structures. In particular, the construction of the elements of this L set from idempotent elements, our definition of k-order idempotent has led to the expanded definition of the definition of the lattice theory. In addition, a lattice offers clever solutions to vital problems in life with the concept of logic. The restriction on a lattice is clearly also limit such applications. The flexibility of logical theories adds even more vitality to practices. This is the main theme of the study. Therefore, the properties of the set elements resulting from the binary operation force the logic theory. According to the new definition given, some properties, lemmas and theorems of the lattice theory are examined. Examples of different situations are given.

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